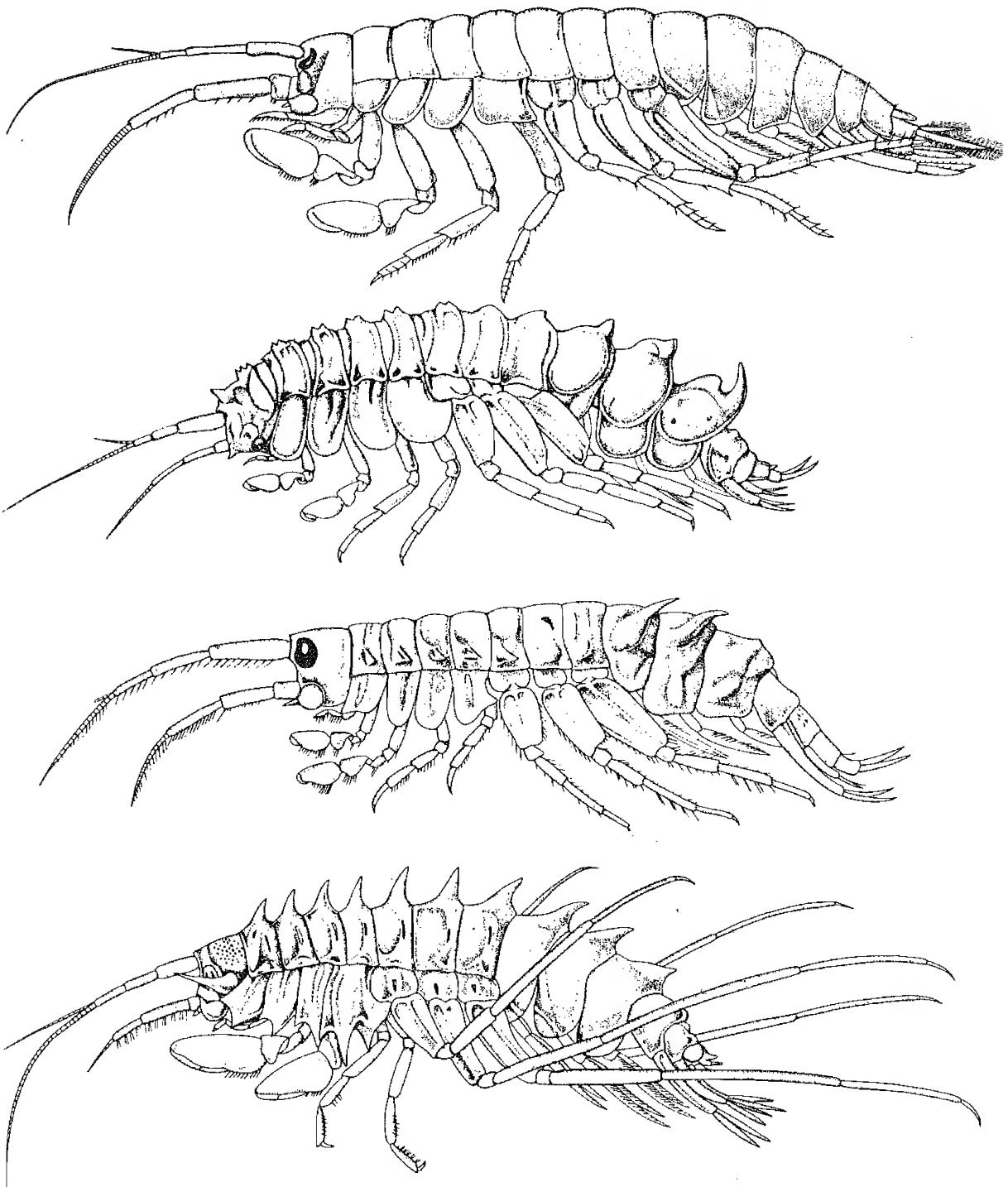


AMPHIPOD NEWSLETTER

15



Edited by: Les Watling, University of Maine - Darling Center, Walpole, Maine 04573, USA

AMPHIPOD NEWSLETTER 15

November 1984

With this newsletter, Wim Vader has officially ended his tenure as Editor and now will primarily help with the Bibliography. We are all, I'm sure, very grateful to Wim for initializing this effort and seeing that it continued. I will be the Editor for a while but will need considerable help if the bibliography and news sections are to be informative. Wim has generously offered to continue to send lists of papers with notations, etc., and I would like to ask that all subscribers routinely send copies of their work to either Wim or myself. Also, since I am located at a small field station, there is no way that I will ever see most of the amphipod literature published around the world unless copies are sent to me.

The financial underpinnings of the newsletter are fine at this point. I would like to ask all regional "editors and collectors" to solicit contributions from the members in their regions -- something on the order of \$US 5.00 per subscriber will be helpful. If you have sent some funds in the last year, let your regional editor or myself know. As long as the newsletter funds stay healthy, we can let the contribution levels remain loose. Please also remember that extra contributions are always helpful in defraying the costs of sending the newsletter to those colleagues who cannot export currency to the U.S. Persons sending funds from countries outside the U.S. should send an International Postal Money Order in U.S. Dollars if at all possible. The small banks in Maine have much difficulty handling foreign currency.

At the present time, the regional editors - collectors are (my apologies if I have omitted someone):

United Kingdom: Dr. Michael Thurston, Institute of Oceanographic Studies, Wormley, Godalming, Surrey, GU8 5UB.
Canada: Dr. Diana Laubitz, National Museum of Natural Science, Ottawa, K1A 0M8
Japan (and other countries in the east?): Dr. Hiroshi Morino, Ibaraki University, Dept. of Biology, Mito 310, Japan
U.S. West Coast: Dr. John Chapman, E.P.A., Marine Science Center, Newport, OR 97365
Australia - New Zealand: Dr. W. D. Williams, Dept. of Zoology, The University, Adelaide, S. Australia 5001, Australia

My apologies to Roger Lincoln for not acknowledging the use of a plate from his book "British Marine Amphipoda: Gammaridea" for last issue's cover. The cover for this issue is from Jerry and Charline Barnard's treatise on "Freshwater Amphipoda of the World."

Walpole, Maine

Les Watling

Les Watling

NEWS AND ANNOUNCEMENTS

NEXT AMPHIPOD MEETING

Jan Stock has arranged to host the next international amphipod meeting, formally called the "VIth INTERNATIONAL COLLOQUIUM ON AMPHIPOD CRUSTACEANS". It will be held in the village of Ambleteuse, France (between Calais and Boulogne) during the period 28 June to 3 July 1985. Further particulars can be found in the attached announcement. Persons wishing to attend should send in the required materials as soon as possible. SEE BACK PAGES !! P.5B - 61

CURATORIAL ASSISTANT

Rick Brusca, Los Angeles County Museum of Natural History, writes that he is looking for a curatorial assistant to work in the Section of Invertebrates. He would especially like to recruit an amphipod person since the Hancock collection of amphipods will be moving to the LACM. Candidates should have a B.S. or M.S. degree in biology (or equivalent), some training in systematics, and experience working with natural history collections; some experience with computers is desirable. Starting salary is \$1540/month. Contact Dr. Rick Brusca, L.A. county Museum of Natural History, 900 Exposition Blvd., Los Angeles, CA 90007 or call him at 213-743-2019.

AMPHIPOD PHYLOGENY WORKSHOP

Ed Bousfield very kindly organized and hosted, with the able help of Diana Laubitz and Kathy Conlan, a workshop dealing with "Phyletic Classification of Amphipod Crustaceans" which was held at the Museum in Ottawa, Canada, on 18 August 1984. A summary of the meeting follows on the next page.

NEW SUBSCRIBERS:

Qaiser Tariq, Dept. of Zoology, Univ. of Kuwait, P.O. Box 5969, Safat, Kuwait
Hancock Library of Biology and Oceanography, Allan Hancock Foundation,
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Sara LeCroy, Applied Biology Inc., P.O. Box 974, Jensen Beach, FL 33457
R.P. Alexeev, Inst. of Biology South Seas, Odessa Branch, Acad. Sciences
USSR, Odessa 270011, USSR
Matt Murphy, Sherkin Island Marine Station, Sherkin Island, Co. Cork,
Eire

Report on a "Workshop" on the Phyletic Classification of Amphipod Crustaceans, August 18, 1984, National Museum of Natural Sciences, Ottawa, Canada.

Notes by staff of National Museum of Natural Sciences, Ottawa

I INTRODUCTION

The purpose of the workshop was to lay the groundwork for developing a generally acceptable phyletic classification of the amphipods. Following a reception in the Museum lounge the previous evening, the delegates were welcomed on the Saturday morning by the Director of the National Museum of Natural Sciences, Alan Emery, and the Assistant Director, Chuck Gruchy. The meeting organized by Chuck Gruchy and Ed Bousfield, was ably chaired by Diana Laubitz. Following the workshop, the delegates visited Ed's cottage at Paugh Lake, west of Ottawa, for continued discussions with colleagues and a chance to relax and enjoy the Canadian boreal forest environment. Many delegates extended their stay in Ottawa to examine Museum collections and to attend the antecedent Second International Conference on Copepoda, August 13-17. On behalf of us all I would like to extend warm thanks to Ed and Marg Bousfield for their generous hospitality and able organization of our "Amphipod Retreat".

II DELEGATES

Bousfield, Ed, National Museum of Natural Sciences, Ottawa, Canada
Bowman, Tom, National Museum of Natural History, Washington, USA
Boxshall, Geoff, British Museum (Natural History), London, England
Brunel, Pierre, Département des Sciences biologiques, Université de Montréal, Montréal, Canada
Conlan, Kathleen, National Museum of Natural Sciences, Ottawa, Can.
Dahme, Hans, Universitat Oldenburg, Oldenburg, W. Germany
Emery, Alan, National Museum of Natural Sciences, Ottawa, Canada
Gruchy, Chuck, National Museum of Natural Sciences, Ottawa, Canada
Hendrycks, Ed, National Museum of Natural Sciences, Ottawa, Canada
Karaman, Gordan, Biological Institute, Titograd, Yugoslavia
Laubitz, Diana, National Museum of Natural Sciences, Ottawa, Canada
Lincoln, Roger, British Museum (Natural History), London, England
Lowry, Jim, The Australian Museum, Sydney, NSW.
Meisner, Don, University of Toronto, Scarborough, Canada
Morino, Hiroshi, Ibaraki University, Mito, Japan
Oshel, Phil, Memorial University, Canada
Rafi, Fahmida, National Museum of Natural Sciences, Ottawa, Canada
Schminke, Kurt, Universitat Oldenburg, Oldenburg, W. Germany
Schminke, Gisela, Universitat Oldenburg, Oldenburg, W. Germany
Seig, Jurgen, Universitat Osnabruck, Vechta, Germany
Shaw, Pat, University of British Columbia, Vancouver, Canada
Staude, Craig, Friday Harbor Laboratories, Friday Harbor, USA
Steele, Don, Memorial University of Newfoundland, St. John's Canada
Stock, Jan, Instituut Voor Taxonomische Zoölogie, Amsterdam, Nederland
Vader, Wim, Tromsø Museum, Tromsø, Norway
Watling, Les, University of Maine-Darling Center, Walpole, USA
Wildish, Dave, Fisheries and Environmental Sciences, St. Andrews, Canada

III. INVITED PRESENTATIONS

Watling, Les. The Systematic Position of the Amphipoda within the Malacostraca.

Five monophyletic superorders are recognized: Amphipoda, Isopoda, Brachycarida, Eucarida and Syncarida. The Amphipoda are considered to be most closely related to the Isopoda and Brachycarida. The protoamphipod originated by loss of the second antennal exopod, reduction of the first antennal accessory flagellum, incorporation of peraeopod 1 into the head and modification of a frontal pair into a maxilliped. The Amphipoda are so different from other Peracarida that it is probable that they do not belong in the superorder. The main character that ties the members together, the presence of brood plates, should be tested for homology.

Lincoln, Roger. Calceoli as Basis for Phyetic Classification of Gammaridean Amphipods.

The calceolus, which is thought to be a mechanoreceptor, occurs on antenna 1 and/or 2 of 7 gammaridean superfamilies: Phoxocephaloidea, Crangonyctoidea, Gammaroidea, Pontoporeioidea, Lysianassoidea, Oedicerotoidea and Eusiroidea. Based on structural similarities in the calceoli, phyetic relationships in these groups suggest the phoxocephalids as the basal group from which the crangonyctids, lysianassids, gammarids and pontoporeids developed separately. The oedicerotids, eusirids, and pontogeneids would have emerged subsequently from one of the generalized types.

Karaman, Gordan. Classification of Gammaroidean Amphipoda.

We must spend more time examining suites of characters to avoid the pitfalls of convergence and environmentally induced phenotypic variation. Comprehensive evaluation, phyetic and cladistic analyses are the new methods that must be applied to the classification of amphipods.

Lowry, Jim. Classification of lysianassoids

A review of recent changes in the Lysianassoids as recently published was given. The importance of sensory structures in understanding phylogenetic patterns as discussed.

Vader, Wim. The Taxonomic Distribution of Parasitic and Commensal Amphipoda - Convergence or Phyetic Tool?

Parasitism and commensalism, absent in terrestrial and subterranean amphipods, and rare in freshwater amphipods (with the exception of inhabitants of 25 m year old Lake Baikal), occur in marine benthic amphipods and are most frequent in pelagic groups. Association could be used as a phyetic tool in

hyperiids and cyamids, where incidence is very high. However, the associated habit in the two groups is convergent. In other amphipod groups a commensal or parasitic habit is too recent to be of use as a phyletic tool.

Bousfield, Ed. Phyletic Ordering of Major Character States as a Basis for Classification of Gammaridean Amphipoda.

No amphipod group has a corner on all plesio- or apomorphic characters. It is important to deal with a suite of characters and therefore numerical analytical methods are essential. Body parts that have received next to no attention, such as the lacinia mobilis, pleopods, gills and brood plates may prove to be extremely important in determining phyletic relationships.

IV. DISCUSSION

i. Highlights

Jan Stock: You must illustrate what you're talking about so that everyone else clearly understands you. When determining apo- and plesiomorphic conditions you must be specific on your out-group and show your reasoning for its selection. You must then define your characters as either one or other of the states but not as intermediate. The best out-group for amphipods is an isopod.

Wim Vader and Tom Bowman: Agreed that Siewing's arguments against close relationships of isopods and amphipods still seems valid.

Ed Bousfield: Agrees that mysids make a better phyletic out-group for amphipods from both external and internal morphology. Explains why the intermediate form must be recognized in character analysis -- a fact of amphipod evolution, for all characters yet studied.

Les Watling: Mysids are extremely different. Isopods and the rest of the Brachycarida should be the amphipod out-group. The problem is that we draw conclusions from only a few specimens. So much of the difference is related to life habit, rather than to a fundamental phyletic relationship. You have to look at the basic caridoid features.

V. POSTERS

Conlan, Kathleen. Untangling the Jassa Complex.

The genus is in the process of being revised world-wide and will prove to comprise about 25 species. Many temperate species are polymorphic, the cause of earlier systematic confusion. The life history and behaviour of Jassa is reviewed.

Hendrycks, Ed. Phyletic Trends in the Mandibular Structure of Pleustid Amphipods.

The family is in the process of being revised. Preliminary investigation of the benthic pleustidae suggests that macroevolution is apparent in the mouthpart morphology. In particular, the mandible readily illustrates this evolutionary trend. In general the molar tends to reduction, the incisor and lacinia mobilis to a proliferation of denticles, the blades of the spine row become heavier and the tri-articulate palp shorter and more compact. These characters are proposed to be commensurate with a presumed dietary shift to a carnivorous mode.

Shaw, Pat. Systematics and Evolutionary Patterns in the Eusiroidea.

The Eusiroidea is identifiable only on the basis of a distinctive faces with no invariant characters to permit rigorous diagnosis. Through the use of (modern phylogenetic and multivariate taxonomic methods the superfamily will be examined for polyphyly, convergence and evolutionary trends.

Staude, Craig. Species diversity, life history and ecology of Paramoera in the northeastern Pacific region.

Field studies on the N. American Pacific coast, especially in Deadman Bay, San Juan Island, have revealed 7 species of the pontogeniid amphipod genus Paramoera. All species are shallow-water and intertidal or estuarine, and some are important in the diet of salmonids and sculpins. In graphical presentation, taxonomic characters of the head region, gnathopods, telson, etc., are correlated with ecological station of the species.

VI. CONCLUSION

The goal of the workshop was to establish agreement on the need to attack the problem of amphipod phyletics cooperatively. Although many widely divergent points of view were presented and major differences of opinion remain unresolved, the general feeling was that the goal had been achieved. It was accepted that all characters need to be properly defined and, where they are used for phyletic studies, their stated apomorphy or plesiomorphy should be supported by reasoned argument. It was agreed that there are many characters that have not yet been investigated of which we need to improve our knowledge. And it was suggested that we should resist looking for readily recognisable characters, as a means to providing identification keys and faunal guides, and concentrate instead on finding characters that can illustrate phyletic relationships.

The Amphipoda of the Mediterranean. Part 1.
Gammaridea (Acanthonotozomatidae to Gammaridae).
Memoires de l'Institute Oceanographique, No. 13,
xiii - 364pp. 1982.

The appearance of a second major regional amphipod study so soon after the publication of Lincoln's (1979) British Marine Amphipoda : Gammaridea is no doubt coincidental. It is, however a sign of increased activity and recent advances within the group, and the increasing demands of ecologists for information that overworked taxonomists are unable to supply.

The present volume was conceived by Sandro Ruffo in 1971, and is the result of cooperation among Ruffo and six other workers, all well known for their studies of the Mediterranean amphipod fauna. Denise Bellan-Santini, Gordon Karaman, Gertraud Krapp-Schickel, Michel Ledoyer, Alan Myers and Ulrich Schiecke are Ruffo's coauthors. The whole work is planned in three parts. The first part, here reviewed, covers part of the Gammaridea. The second part will deal with the remaining gammaridean families together with the Ingolfiellidea and Caprellidea, while part three will provide a synthesis of systematic, faunistic and zoogeographic data and include a bibliography and indexes.

Introductory material is brief. The major previous studies are noted, a rationale for the present work is given, geographical coverage is indicated and supplemented with a map and a list of localities, and the systematic schemes used and organization of data are outlined. Keys to the suborders of the Amphipoda and to the families of the Gammaridea are given.

Within the main text each of the seven authors has assumed responsibility for one or more of the fifteen families covered in this part of the work. Families, genera within families, and species within genera are arranged alphabetically. Families and genera are diagnosed and species described briefly. Synonymies are given at all levels. While not complete, major

references, particularly those relating to the Mediterranean, are given. For each species, the type locality is noted, and localities within the Mediterranean and a summary of extra-Mediterranean distribution are listed, together with a brief account of available ecological and bathymetric data. Within a genus, one species at least has been fully illustrated, the drawings including a habitus sketch and a full complement of mouthparts. Other species, while less fully figured, are usually more than adequately covered.

The avowed intent of this volume is to provide a handbook both for the amphipod specialists and for ecologists with less familiarity with the group. This necessitates, to some degree at least, a dual approach to the content and organization of such a volume. The alphabetical arrangement of taxa and the 'familiar' rather than modern familial concepts, while no doubt offending some specialists, will ease problems for non-specialists. On the other hand, few specialists, particularly European workers, will make much use of the key to families, whereas it may well be of vital importance to non-specialists. This being the case, the lack of any general morphological account, or alternatively a fully illustrated key/glossary will put non-specialists at a disadvantage. Having made this point, it should be stressed that this volume is, all in all, an admirable production. The diagnoses and descriptions are clear and succinct, the keys are precise, and the illustrations are large, abundant and of a high standard. Bearing in mind that seven authors are involved, the consistency, in what to most of them is not their native tongue, is quite remarkable, as, too, is the standard of illustration.

Errors of omission and commission are almost non-existent. The spelling of Ampithoe Leach, 1814 as Amphithoe, while philologically correct, is not permitted by the provision of the International Code of Zoological Nomenclature Article 32(a)(ii) which specifically rules out the emendation of original

incorrect transliteration. I cannot claim to have examined closely every one of the 364 pages in this volume, but the only other errors to become apparent during the working up of a small collection of Mediterranean amphipods were the misspelling of Maera on p313 and p321.

While appreciating the great gains which will accrue from the publication of such a well-produced handbook as this, there are dangers which should be appreciated. It is all too easy for the non-specialist, and even the expert, to force material into previously recorded taxa. This can be a problem even in small areas which have been intensively sampled. The Mediterranean is neither small, nor, as can be seen from the map, has it been uniformly collected. Ruffo is clearly aware of this, and emphasizes just how uneven has been the collecting effort around the Mediterranean. Although the French, Italian and Yugoslav coasts are reasonably well documented, Spain, Greece, Turkey, Egypt, Libya and Morocco are not. He also points out that of the 197 species recorded in part one of this work, 78, including 66 previously undescribed species are a result of the authors' researches. An indication of the increased effort in the area is that 62 new species have been described in the period 1970-1979. If a handful of workers investigating a relatively small proportion of the total coastline can achieve this, what does the future hold? Specialists and non-specialists beware!

In the introduction, Ruffo lists the five great names connected with the study of Mediterranean amphipods, Chevreux, Costa, Della Valle, Heller and Mayer, and dedicates this study to them. Decades hence, all our taxonomic data will be available, no doubt, on a screen at the touch of a key. Until that time comes, Ruffo et al. (1982) will rightly be the standard reference, just as Chevreux and Fage has been for the past fifty years and more.

Michael H. Thurston.

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BARNARD, J.L. & C.M. BARNARD, 1982. The genus Rhepoxyrinus (Crustacea: Amphipoda: Phoxocephalidae) in American seas. *Smithson. Contr. Zool.* **357**: 1-49. (A genus monograph. New taxa R. menziesi n. sp. (off S. California, is Paraphoxus epistomus s. Barnard 1960), R. spec. D, R. hudsoni n. sp. (Long Island Sound, is Trichophoxus epistomus s. Bouafield 1973), R. spec. C, R. homocuspisidatus n. sp. (intertidal, Santa Barbara, Cal.) and R. spec. L. The species R. epistomus (type), R. lucubrans, R. gemmatus, R. variatus, R. abronius, R. fatigans, R. daboicus, R. stenodus, R. heterocuspisidatus, R. tridentatus and R. vigiteagus are transferred to the present genus from Paraphoxus)

BARNARD, J.L. & J. CLARK, 1982. Huarpe escofeti, new genus, new species, a burrowing marine amphipod from Argentina (Crustacea, Amphipoda, Urohauostriidae). *J. crust. Biol.* **2**: 281-295.

BARNARD, J.L. & J. CLARK, 1982. Puelche orensanzi, new genus, new species, a phoxocephalid amphipod from the shores of Argentina. *J. crust. Biol.* **2**: 261-272.

BARNARD, J.L. & M.M. DRUMMOND, 1982. Discovery of Cheiocratus (Crustacea: Amphipoda) on Australian shores. *Proc. R. Soc. Victoria* **94**: 107-120. (Deals with Cheiocratus (C. bassi n. sp. from Victoria, and C. praedens n. sp. from Tasmania) and two closely related new genera: Incratella n. gen. (type and only species Cheiocratus inermis from Madagascar) and Prosocratus (type and only species P. butcheri n. sp. from Victoria). A key to all species in this complex is provided.)

BARNARD, J.L. & M.M. DRUMMOND, 1982. Gammaridean Amphipoda of Australia, part V: Superfamily Hauastorioidea. *Smithson. Contr. Zool.* **360**: 1-148. (New taxa: Zobrachoidae n. fam. for Zobracho, Prantinus n. gen. and Bumeralius n. gen. Bumeralius monotypic, type B. bucholicus n. sp. (Victoria); Prantinus also monotypic, type P. talanggi n. sp. (Victoria). The Urohauostriidae n. fam. consist of 6 genera, of which 5 are new. Urohauostrius pulcus n. sp., U. pentinus n. sp., U. merkenius n. sp., U. wingaro n. sp., U. parnqius n. sp., and U. perkeus n. sp. all come from Victoria, U. yurru n. sp. and U. urungari n. sp. from Queensland, and U. gunni n. sp. from New South Wales. Gheegerus garbajua n. gen. n. sp. (Queensland) and Narunius tallerkus n. gen. n. sp. (NSW) represent monotypic new genera, while Tuldarus n. gen. has 2 spp., both from Victoria: T. cangellus n. sp. (type) and T. barinius n. sp. Tottunqua tungus n. gen. n. sp. (Victoria) and Dirimus tarlitus n. gen. n. sp. (Queensland) are again monotypic genera. Also monotypic is the new family Condukiidae, erected for Condukius karken n. gen. n. sp. from Victoria.)

BARNARD, J.L. & M.M. DRUMMOND, 1982. Redescription of Exoediceros fossor (Stimpson, 1856), an Australian marine fossorial amphipod, the type-species of the new family Exoedicerotidae. *Proc. biol. Soc. Wash.* **95**: 610-620. (This new family contains as further genera Exoediceropsis, Bathyporeiapus, Metoediceros, Parhalimedon and Patuki. These are all southern 2-eyed (or

blind) genera with apical spination on the rami of uropods 1-2. They are assumed to be more primitive than the Oedicerotidae s. str.)

BARNARD, J.L. & G.S. KARAMAN, 1982. Classificatory revisions in gammaridean Amphipoda (Crustacea), part 2. Proc. biol. Soc. Wash. 95: 167-187. (More armchair revisions, preparatory to the revision of the new 1969-Barnard. Deals with the following matters: Afrochiltonia is a senior synonym of Austrochiltonia. In the Eusiridae Pseudomoera is revived and Atyloides fontana transferred to it as a second species. Relictomoera n. gen. (type Paramoera relicta, further sp. P. taushinana) and Sternoamoera n. gen. (type and only sp. Paramoera yezoensis) are split off from Paramoera, and Nasageneia (type Pontogeneia nasa, further sp. P. guinsana) from Pontogeneia. Paramoera brachyura Stephensen, 1949 (not Schellenberg 1931) is renamed P. stephenaeni n. nom.

In the Gammaridae Aurohornellia n. gen. has Tulearogammarus sinuatus as type and only sp.; Maeracunha is synonymized with Ceradocopsis, and Metaceradocus and Tulearogammarus with Hornellia. Lugimaea n. gen. (type Maera lupana), Maleriopae n. gen. (type Eriopisella dentifera), and Tegano n. gen. (type Melita seticornis) are monotypic genera. A key to hadziids and weckeliids is provided, and two new monotypic genera described: Texiweckeliopsis (type Texiweckelia insolita) and Holsingerius (type Texiweckelia samacos).

The new family Paracalliopiidae consists of the two genera Paracalliope and Indocalliope n. gen. (type and only sp. Paracalliope indica).

In the Phoxocephalidae, the monotypic Feriharpinia n. gen. has Harpinia ferenteria as type, and Torridoharpinia n. gen. Proharpinia hurleyi (further sp. Proharpinia tropicana.)

BARNARD, J.L. & C.M. BARNARD, 1983. Freshwater Amphipoda of the world. 1. Evolutionary patterns. 2. Handbook and bibliography. Hayfield Assoc., Mt. Vernon, 830 pp. (This is a veritable tour de force, and AN will need many different reviewers to cover all its different aspects. The book - in two volumes, and substantially finished July 1979 - deals with the evolutionary history, zoogeographic radiation, taxonomy and distribution of all the world's freshwater amphipoda, and it will be a veritable treasure-trove for years to come.

Here only the few formally announced taxonomic changes will be noted. Most higher taxa have only been described in informal terms as the authors feel that the ongoing mosaic-like radiation of freshwater amphipods is next to impossible to formalize within the constraints of Linnean classification. In addition to those mentioned here, a number of other transfers and new synonymizations may have been overlooked by me; for example, are Karaman's earlier sweeping 'lumpings' of a number of genera into Echinogammarus and Sarothrogammarus here partly reversed. 'Official changes': Austrocrenonyx n. gen. (Gammarus barringtonensis + 4). Gammarus ignotus is transferred from Heterogammarus to Corophiomorphus, and G. bifasciatus and G. tenuis from Heterogammarus to Eurybiogammarus. Palicarinus n. gen. is erected for Gammarus puzilli, Pallasioola to n. gen. for Pallasaea cancelloides var. quadrispinosa. Tadzhikistania n. gen. is erected for Sarothrogammarus ruffoi (+ 1) and Lusigammarus n. gen. for Gammarus guernei (+ 2). Zenkevitchia revaai is transferred to Anopogammarus. Calliope didactyla is a synonym of Allorchestes novizealandiae. Muanu and Cottesloe are merged with Gammarella, while Tabatzius is provisionally kept apart.)

BARNARD, J.L. & H.M. DRUMMOND, 1983. Warreyus, a new genus of Exoedicerotidae (Crustacea, Amphipoda) based on Exoediceros maculosus Sheard. Proc. R. Soc. Victoria 95: 65-75. (Warreyus n. gen. with type Exoediceros maculosus and further species Oedicerus latrans Haswell, both from S and SE Australia. A few additional figs of Exoediceros fossor are also given.)

BARNARD, J.L. & G.S. KARAMAN, 1983. Australia as a major evolutionary centre for Amphipoda (Crustacea). Mem. Austr. Mus. 18: 45-61. (An important paper, but very hard to abstract. The paper contains a new proposal for the higher classification of the order Amphipoda. This classification is reproduced on p. 00 of this Newsletter; it is not accepted by Karaman (see p. 59). New taxa diagnosed in Appendix 3 pp. 60-61: Exoedicerotidae n. fam. (type Exoediceros, further genera Exoediceropsis and Bathyporeiapus). Paracalliopiidae new family (type Paracalliope). Austrogammarus n. gen. (type sp. Gammarus australis, further sp. G. haasei), Austrocrangonyx n. gen. (also described as new in Barnard & Barnard 1983) for Gammarus barringtonensis (+ 4)

BARNARD, J.L. & J. CLARK, 1984. Redescription of Phoxocephalopsis zimmeri with a new species, and establishment of the family Phoxocephalopsidae (Crustacea, Amphipoda) from magellanic South America. J. crust. Biol. 4: 85-105. (The Phoxocephalopsidae n. fam. consists of Phoxocephalopsis (type) and Puelche. Phox. zimmeri is redescribed and P. gallardoi n. sp. (= P. zimmeri s. Barnard & Drummond 1982) described on material from the Falkland Islands.)

BARLOCHER, F., 1982. The contribution of fungal enzymes to the digestion of leaves by Gammarus fossarum Koch (Amphipoda). Oecologia 52: 1-4.

BARTHELEMY, D., 1982. La colonisation artificielle de la rivière souterraine de La Balme (Dep de l'Isere) par l'amphipode Niphargus virai. Bilan actuel. Bull mens. Soc. linn Lyon 51: 250-256.

BAUDIN, J.P., 1982. Bioaccumulation et élimination du 65 Zn par Gammarus aequicauda Martinov. Mar. Environm. Res. 7: 227-233.

BEDFORD, A.P. & P.G. MOORE, 1984. Macrofaunal involvement in the sublittoral decay of kelp debris: the detritivore community and species interactions. Est. coast. Shelf Sci. 18: 97-111. (i.a. on Gammarus locusta)

BEHBEHANI, M.I. & R.A. CROKER, 1982. Ecology of beach wrack in northern New England with special reference to Orchestia platensis. Est. coast. Shelf Res. 15: 611-622.

BELL, S.S. & L.D. COEN, 1982. Investigations on epibenthic meiofauna. 1. Abundance on and repopulation of the tube-caps of Diopatra cuprea (Polychaeta, Onuphidae) in a subtropical system. Mar. Biol. 67: 303-310.

BELLAN-SANTINI, D., 1981. Influence des pollutions sur le peuplement des amphipodes dans la biocoenose des algues photophiles. Tethys 10: 185-194.

BENGSSON, G., 1982. Energetic costs of amino acids exudation in the interaction between the predator Gammarus pulex L and the prey Asellus aquaticus L. J. chem. Ecol. 8: 1271-1282.

BENGSSON, G., 1982. Patterns of amino acid utilization by aquatic Hymenocytes. Oecologia 55: 355-363. (Of amphipod interest because of grazing of decomposing leaves by Gammarus app.)

BERENTS, P.B., 1983. The Melitidae of Lizard Island and adjacent reefs, the Great Barrier Reef, Australia. Rec. austr. Mus. 35: 101-143. (Described and illustrated are Ceradocus hawaiiensis (commensal with hermit crabs), C. (D) oxyodus n. sp., C. (C) woorrea n. sp., C. (D) yandala n. sp., Dulichiella appendiculata, Elasmopus crenulatus n. sp., E. hogheeno, E. pocillimanus, E. pseudaffinis, E. spinicarpus n. sp., Maera griffini n. sp., M. octodena, M. quadrimana, M. reishi., M. serrata, Mallacoota balara

n. sp. (with key to Mallacoota spp), Parelasmopus echo and P. suensis.) BERG, C.J. & N.L. ADAMS, 1984. Microwave fixation of marine invertebrates. J. exp. mar. Biol. Ecol. 74: 195-199.

BERLAND, B., 1983. (Sea lice in fish roe and dogfish.) Fiskets Gang 69: 175-179. (In Norwegian. On Cirolana borealis and Tmetonyx cicada in roe of cod and saithe, and Cirolana in dogfish)

BERNDT, J., 1984. Nachweis von Gammarus tigrinus Sexton fur den unteren Niederrhein. Decheniana 137: 168-169.

BERNEM, K.H. van, 1982. Effect of environmental crude oil contamination on abundance, mortality and resettlement of representative mud flat organisms in the mesohaline area of the Elbe estuary. Neth. J. Sea Res. 16: 538-546. (i.a Corophium volutator)

BLANCHET - TOURNIER, M.P., J-J. MEUSY & H. JUNERA, 1980. (Molting and vitellogenesis in Orchestia gammarella (Crustacea, Amphipoda): Study of the vitellogenin synthesis after cauterization of the enteromedian part of the protocerebrum.). CR Acad. Sci. Paris 291: 829-832. (In French, not seen)

BLANCHET - TOURNIER, M.P., 1982. (Some aspects of hormonal interactions between molting and vitellogenesis in Orchestia gammarellus (Crustacea, Amphipoda)). Reproduct. Nutrit. Dev. 22: 325-344. (In French, not seen)

BLINN, D.W. & D.B. JOHNSON, 1982. Filter-feeding of Hyalella montezuma, an unusual behavior for a freshwater amphipod. Freshw. Invertebr. Biol. 1: 48-52.

BLUZAT, R., O. JONOT & J. SEUGE, 1982. Acute toxicity of thiram in Gammarus pulex; effect of a one-hour contamination and degradation of an aqueous suspension. Bull. environn. Contam. Toxicol. 29: 248-252.

BOLT, S.R.L., 1983. Haemolymph concentration and apparent permeability in varying salinity conditions of Gammarus duebeni, Chaetogammarus marinus and Gammarus locusta. J. exp. Biol. 107: 129-140.

BONSDORFF, E. & W.G. NELSON, 1981. Fate and effect of Ekofisk crude oil in the littoral of a Norwegian fjord. Sarsia 66: 231-240. ('Amphipods showed avoidance responses, but these were often insufficient to prevent significant mortality.)

BONSDORFF, E., 1983. Effects of experimental oil exposure on the fauna associated with Corallina officinalis L. in intertidal rock pools. Sarsia 68: 149-156. (Again, amphipods turned out to be the most sensitive invertebrates.)

BOROWSKY, B., 1983. Behaviors associated with tube-sharing in Microdeutopus gryllotalpa (Costa) (Crustacea: Amphipoda). J. exp. mar. Biol. Ecol. 68: 39-51.

BOROWSKY, B., 1983. Reproductive behavior of three tube-building peracarid crustaceans: the amphipods Jassa falcata and Ampithoe valida and the tanaid Tanais cavolini. Mar. Biol. 77: 257-263.

BOROWSKY, B., 1983. Placement of eggs in their brood pouches by females of the Amphipod Crustacea Gammarus palustris and Gammarus mucronatus. Mar. Behav. Physiol. 9: 319-325.

BORTKEVICH, L.V., 1983. (Corophiid diurnal vertical migrations (Amphipoda).) Vestnik Zool. ?(1): 68-71. (In Russian, not seen)

BOURGET, E. & D. MESSIER, 1983. Macrobenthic density, biomass, and fauna of intertidal and subtidal sand in a Magdalen Islands lagoon, Gulf of St. Lawrence. Can. J. Zool. 61: 2509-2518.

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BOUSFIELD, E.L., 1981. Evolution in North Pacific coastal marine amphipod crustaceans. Pp. 69-89 in G.G.E. SCUDDER & J.L. REVEAL (eds). Evolution

today. Proc 2d int. Congr. Syat. Evol. Biol. 1981. (A most interesting paper, but impossible to abstract)

BOUSFIELD, E.L. & J.R. HOLSINGER, 1981. A second new subterranean amphipod crustacean of the genus Stygobromus (Crangonyctidae) from Alberta, Canada. Can. J. Zool. 59: 1827-1830. (S. secundus n. sp.)

BOUSFIELD, E.L., 1982. Amphipoda (Palaeohistory). Pp. 96-100 in McGraw-Hill Yearbook of Science & Technology, 1982-1983. New York.

BOUSFIELD, E.L., 1982. Malacostraca. Amphipoda. Pp. 241-286 in S.S. PARKER (ed). Synopsis and classification of living organisms. McGraw-Hill Book Company, New York. (With diagnoses, but no lists of genera of all families in the 'new Bousfield classification' Hyperiidea by S.T. Shih)

BOUSFIELD, E.L., 1982. The amphipod Superfamily Talitroidea in the Northeast Pacific region. I. Family Talitridae: systematics and distributional ecology. Natn. Mus. nat. Sci. (Ottawa) Publ. biol. Oceanogr. 11: 1-72. (This is the first issue of an ambitious venture: a modern amphipod fauna of the very diverse northeastern Pacific region. All species are described and illustrated and keys provided. New taxa: Protorchestia n. gen. (type sp. Orchestia nitida); Traskorchestia n. gen. (type Orchestia traskiana, further spp. O. ochotensis, O. ditmari, O. georgiana); Paciforchestia n. gen. (type Parorchestia klawei, further spp. O. pyatakovi, O. tenuimana); Transorchestia n. gen. (type Orchestia chilensis, 5 further spp.). Among the real sandhoppers Platorchestia n. gen. has Orchestia platensis as type and 5 additional species, among them P. chathamensis n. sp. from British Columbia. Megalorchestia Brandt, 1851, (type M. californiana), and 6 additional spp., among them M. dexteræ n. sp. from Baja California, is revived. Orchestoidea tuberculata, the type species of this genus, is finally fully redescribed. Pseudorchestoidea n. gen. has Orchestoidea bolleyi as type, and 4 further sp.: Talorchestia brito, Orchestoidea meridionalis, O. gracilis and P. mexicana n. sp. from Sinaloa prov., Mexico.)

BOUSFIELD, E.L. & N.L. TZVETKOVA, 1982. (Studies on Dogielinotidae (Amphipoda, Talitroidea) from the shallow waters of the North Pacific region.) Issled. Fauni Morei 29(37): 76-94, 7 Plates. (In Russian, with English summary. Unless otherwise mentioned, the following new taxa have Bousfield as sole author. Dogielinoides n. gen. (monotypic, type Dogielinotus golikovi), Proboscinotus n. gen. (monotypic, for D. loquax), Haustorioides magnus n. sp. (Kurile Islands), H. gurjanovae n. sp. (Possajet Bay, Japan Sea), Eohaustorioides Bousfield & Tzvetkova n. gen. (type and only sp. Haustorioides japonicus). Also Dogielinotus moskvitini and Allorchestes malleolus are illustrated, and a key to all species provided.)

BOWMAN, T.E. & M. McMANUS McGUINNESS, 1982. Epipelagic amphipods of the Family Hyperiidae from the International Indian Ocean Expedition 1959-1965. Smithson. Contr. Zool. 359: 1-53.

BOWMAN, T.E., A.C. COHEN & M. McMANUS McGUINNESS, 1982. Vertical distribution of Themisto gaudichaudii (Amphipoda: Hyperiidae) in deepwater dumpsite 106 off the mouth of Delaware Bay. Smithson. Contr. Zool. 351: 1-24.

BOWMAN, T.E., 1984. Stalking the wild crustacean: the significance of sessile and stalked eyes in phylogeny. J. crust. Biol. 4: 7-11. ('Sessile eyes are the primitive state')

BRACHT, G., 1981. The jump of Orchestia cavimana Heller, 1865 (Crustacea, Amphipoda, Talitridae). Experientia 36: 56-57.

BRADSTREET, M.S.W., 1982. Pelagic feeding ecology of Dovekies, Alle alle, in Lancaster Sound and Western Baffin Bay. Arctic 35: 126-140. (Amphipods are very important in diet.)

BRADSTREET, M.S.W. & W.E. CROSS, 1982. Trophic relationships at High Arctic ice edge. Arctic 35: 1-12.

BRANCH, G.M., 1981. The biology of limpets: physical factors, energy flow, and ecological interactions. *Oceanogr. mar. Biol. ann. Rev.* 19: 235-280.
 (Amph. pp. 331-332)

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BROWN, A.F. & M. DIAMOND, 1984. The consumption of rainbow trout (*Salmo gairdneri* Richardson) eggs by macroinvertebrates in the field. *Freshw. Biol.* 14: 211-215. (i.a. *Gammarus pulex*)

BROWN, B.E., 1982. The form and function of metal-containing 'granules' in invertebrate tissues. *Biol. Rev.* 57: 621-667. (A review paper)

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 (not seen)

BRUSCA, G.J., 1981. Annotated key to the Hyperiidea (Crustacea: Amphipoda) of North American coastal waters. *Techn. Repts Allen Hancock Fndn* 5: 1-76.
 (In this most useful paper the key to *Cystisoma* on p. 19 is apparently misprinted: couplet 1a keys to 2, 1b is *G. fabricii*, 2a *G. latipes* and 2b *G. pellucidum*. The discussion only deals with Pacific records.)

BUBINAS, A.D., 1980. (Formation of benthic fauna as a food base for fish in the reservoir of the Kansas Hydroelectric Power Plant, Lithuanian SSR, USSR). *Liet TSR Mokslu Akad. Darb.*, Ser. C. Biol. Mokalai 1980 4: 91-96. (In Russian, not seen. Successful introductions of i.a. *Chaetogammarus warpachowskyi*, *Pontogammarus robustoides*, *P.r. aestuarius* and *P. crassus* from the Caspian Sea.)

BUCHANAN, R.A. & A.D. SEKERAH, 1982. Vertical distribution of zooplankton in Eastern Lancaster Sound and Western Baffin Bay, July-October 1978. *Arctic* 35: 41-55.

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BULNHEIM, H-P. & A. SCHOLL, 1982. Polymorphism of mannose phosphate isomerase in North Sea and Baltic Sea populations of the amphipods *Gammarus zaddachi* and *G. salinus*. *Mar. Biol.* 71: 163-166.

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BUSDOSH, M., G.A. ROBILLIARD, K. TARBOX & C.L. BEEHLER, 1982. Chemoreception in an arctic amphipod crustacean: a field study. *J. exp. mar. Biol. Ecol.* 62: 261-269. (*Boecksinus affinis*)

BUSHUEVA, I.V., 1982. (A new species of the genus *Pseudharpinia* from the Davis Sea (Antarctic)). *Zool. Zh.* 61: 1262-1265. (In Russian. *P. calcariaria* n. sp. Key to all species)

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 (principally *Synurella dentata* and the isopod *Lyrceus fontinalis*; Ohio, USA; a.o. *Synurella dentata*)

BUTLER, R.G., W. TRIVELPIECE & D.S. MILLER, 1982. The effects of oil, dispersant, and emulsions on the survival and behavior of an estuarine

teleost and an intertidal amphipod. Environ. Res. 27: 266-276. (The amphipod is Gammarus oceanicus)

CADWALLADR, Ph.L. & G.J. GOOLEY, 1981. An evaluation of the use of the amphipod Austrochiltonia to control growth of Saprolegnia on the eggs of Murray cod Maccullochella peelii. Aquaculture 24: 187-190. (It does not work)

CAINE, E.A., 1983. Community interaction of Caprella penantis Leach (Crustacea: Amphipoda) on sea whips. J. Crust. Biol. 3: 497-504.

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CAVEDINI, P., 1982. (Contribution to the knowledge of the Caprellidea of the Mediterranean (Crustacea, Amphipoda). Boll. Mus. Civ. St. Nat. Verona 8(1981): 493-531. (In Italian. Seventeen species of which Deutellia schieckei from Sardinia is new)

CEJAS, J.R., A. BRITO & G. LOZONO, 1983. (On some gammarideans (Crustacea, Aaphipoda) new to the marine fauna of the Canary Islands.) Vieraea 12(1982): 317-328. (In Spanish. Twelve species new to the Canary Islands. Amphithoe kaneohe, A. neglecta, Elasmopus antennatus and Apherusa ovalipes are illustrated)

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GROTON, G.W., M.L.H. THOMAS, & J.S. BLEAKNEY, 1983. Growth and production of the intertidal amphipod *Corophium volutator* (Pallas) in the inner and outer Bay of Fundy. *Proc. Nova Scotian Inst. Sci.* 33: 47-56.

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HARRIS, G.J. & E. MORGAN, 1983. Estimates of significance in periodogram analysis of damped oscillation in a biological time series. *Behav. Anal. Lett.* 3: 221-230. (A study using *Corophium volutator* as model)

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HARTMOLL, R.G., 1983. Strategies of crustacean growth. *Mem. Austr. Mus.* 18: 121-131.

HASTINGS, M.H., 1981. Intersex specimens of the amphipod *Apelisca brevicornis* (Costa). *Crustaceana* 41: 199-205.

HAWKINS, C.M. & P.D. KEIZER, 1982. Ammonia excretion in *Corophium volutator*, using an automated method. *Can. J. Fish. aquat. Sci.* 39: 640-643.

HEARD, R.W., 1982. Guide to common tidal marsh invertebrates of the northeastern Gulf of Mexico. Mississippi - Alabama Sea Grant Program Publication 79-004. (Available from Gulf Coast Research Lab., Ocean Springs, MS 39564 USA)

HELLUY, S., 1982. Relations hotes-parasite du trematode *Microphallus papillorobustus* (Rankin, 1940). I Penetration des cercaires et rapports des metacercaires avec le tissu nerveux des *Gammarus*, hotes intermediaires. *Anna Parasitol.* 57: 263-270. (The cercariae enter the gills through the branchial cuticle; metacercaiae encyst in cerebroid ganglia or ventral nerve chain.)

HELLUY, S., 1983. Relations hotes-parasite du trematode *Microphallus papillorobustus* (Rankin, 1940). II. Modifications du comportement des Gammarus hotes intermediaires et localisations des metacercaires. *Ann. Parasitol. hum. comp.* 58: 1-17.

HEMPEL, I., G. HUBOLD, B. KACZMARUK, R. KELLER, & R. WEIGMANN-HAAS, 1983. Distribution of some groups of zooplankton in the inner Weddell Sea in summer 1979/80. Ber. Polarforsch. 9: 1-35. (Amph. pp. 8-9, 23-26. On p. 9-10 *Hyperiella dilatata* has been called *H. antarctica* (R. Weigmann-Haas, pers. com.))

HEPPLESTON, P.B., 1984. *Gammarus pulex* (L.) in Orkney, Scotland (Amphipoda). Crustaceana 45: 220.

HERBST, G.N., 1981. The distribution of amphipod crustaceans within Israel. Israel J. Zool. 30: 105-106. (Not seen)

HERBST, G.N., 1982. Effects of leaf type on the consumption rates of aquatic detritivores. Hydrobiologia 89: 77-88. (i.a. *Gammarus pseudolimnaeus*)

HERBST, G.N. & C. DIMENTMAN, 1983. Distributional patterns and habitat characteristics of Amphipoda (Crustacea) in the inland waters of Israel and Sinai. Hydrobiologia 98: 17-24. (Deals with 10 spp, i.a. new (unnamed) spp of *Echinogammarus* and *Metacrangonyx*)

HERBST, V., 1982. Amphipoden in salzbelaesteten niedersachsenischen Oberflachengewässern. Gewässer Abwasser 68/69: 35-40. (*Gammarus tigrinus*, *Chaetogammarus lechnus*, *Corophium lacustre*, *C. curvispinum*)

HESSLER, R.R., 1982. The structural morphology of walking mechanisms in eumalacostracan crustaceans. Phil. Trans. R. Soc. Lond. 296B: 245-298.

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HIROKI, M., 1982. Diel changes in traffic frequency of three freshwater gammarid species in their natural habitats and in a laboratory aquarium. Pol. Arch. Hydrobiol. 29: 331-342.

HOBERG, M.K., S.G. McGEE & H.M. FEDER, 1982. Polychaetes and amphipods as commensals with pagurids from the Alaska shelf. Ophelia 21: 167-169. (*Podoceropsis nitida*, *Melita* spp and *Parapleutes pugettensis*)

HOLMAN, H. & L. WATLING, 1981. *Pagetina reducta* sp. n. (Crustacea: Amphipoda), with a review of the family Pagetinidae. Sarsia 66: 213-215. (*P. reducta* sp. n. from 52°33'S, 63°53'W. *Heterocressa* is synonymized with *Pagetina*)

HOLMAN, H. & L. WATLING, 1983. A revision of the Stiliopodidae (Amphipoda). Crustaceana 44: 27-53. (The family is divided into 3 subfamilies: Stiliopodinae (*Stiliopes*, 3 spp), Astyrinae n. stat. (*Astyra*, 5 spp) and Alexandrellinae n. subfam. (with *Alexandrella*, 4 spp, *Astyroides* and *Bathypanoploea*). Redescribed are *Alexandrella australis*, *A. dentata* (the type-species of *Pseudandaniexis*), *A. subchelata* n. sp. (Great Australian

Bight, 1340 m, = A. dentata s. Barnard 1961), Bathypanoploea schellenbergi n. name (a replacement name for Iphimedioipa australis Schellenberg non A. australis Chilton). The genus Atyroides is provisionally resurrected, and the authors express skepticism as to the merging of Eclysis with Epimeriella.)

HOLMAN, H., & L. WATLING, 1983. Amphipoda from the Southern Ocean: families Colomastigidae, Dexaminidae, Leucothoidae, Lilljeborgiidae and Sebidae. Antarctic Res. Ser. 38: 215-262. (Leucothoe orkneyi n. sp. from 61° 27'S, 41° 55'W; key to species of Seba; redescriptions of several of Schellenberg's Antarctic species)

HOLMQUIST, J.G., 1982. The functional morphology of gnathopods importance in grooming, and variation with regard to habitat, in talitroidean amphipods. J. crust. Biol. 2: 159-179.

HOLMSTROM, W.F., B.W.W. GRANT & E. MORGAN, 1981. Preliminary observations on the low temperature tolerance of an estuarine amphipod, Corophium volutator. Cryolett 2: 129-134.

HOLMSTROM, W.F., & E. MORGAN, 1983. Variation in the naturally occurring rhythm of the estuarine amphipod, Corophium volutator (Pallas). J. mar. Biol. Ass. U.K. 63: 833-850.

HOLMSTROM, W.F., & E. MORGAN, 1983. The effects of low temperature pulses in rephasing the endogenous activity rhythm of Corophium volutator (Pallas). J. mar. biol. Ass. U.K. 63: 851-860.

HOLMSTROM, W.F., & E. MORGAN, 1983. Laboratory entrainment of the rhythmic swimming activity of Corophium volutator (Pallas) to cycles of temperature and periodic inundation. J. mar. biol. Ass. U.K. 63: 861-870.

HOLSINGER, J.R., 1981. Amphipoda. Pp. 36-40 in S.H. HURLBERT, G. RODRIGUEZ & N.D. SANTOS (eds.) Aquatic biota of tropical South America, part 1. Arthropoda. San Diego. (Holsinger's contribution deals with entire South America)

HOLSINGER, J.R., 1981. Stygobromus canadensis, a troglobitic amphipod crustacean from Castleguard Cave, with remarks on the concept of cave glacial refuges. Proc. 8. int. Congr. Speleol. 1: 93-95.

HOLSINGER, J.R., 1982. A preliminary report on the cave fauna of Burnsville Cave, Virginia. NNS Bull. 44: 98-101 (i.e., Stygobromus conradi).

HOLSINGER, J.R., 1983. Paramexiweckelia, a new genus of subterranean amphipod crustacean (Hadziidae) from northern Mexico. Int. J. Speleol. 12: 37-44 (The monotypic genus is erected to accomodate Mexiweckelia particeps from Coahuila, Mexico).

HOLSINGER, J.R., J.S. MORT, & A.D. RECKLIES, 1983. The subterranean crustacean fauna of Castleguard Cave, Columbia Icefields, Alberta, Canada, and its zoogeographic significance. Arct. Alp. Res. 15: 543-549.

HONG, J.S., 1983. Three tube-building amphipods from experimental plates in Deukryang Bay in the southern coast of Korea. Korean J. Zool. 26: 135-153. (Jassa falcata, Corophium acheruanicum and Ericthonius brasiliensis)

HOVENKAMP, F., W. HOVENKAMP & J.J. van der HEIDE, 1983. Two new hyporheic amphipods, Bogidiella (Bogidiella) cyrnensis n. sp. and Bogidiella (Medigidiebla?) paolii n. sp., from Corsica. Bijdr. Dierk. 53: 82-92.

HOWARD, R.K., 1982. Impact of feeding activities of epibenthic amphipoda on surface fouling of eelgrass leaves. Aquat. Bot. 14: 91-97. (Paradexamine churinga and Tethygenia nalgo)

HUBERDEAU, L. & P. BRUNEL, 1982. (Efficiency and comparative faunistic selectivity of 4 endobenthic, epibenthic and suprabenthic samples on 2 bottom types.) Mar. Biol. 69: 331-343. (In French, not seen)

HUDON, C., 1983. Selection of unicellular algae by the littoral amphipods Gammarus oceanicus and Calliopius laeviusculus (Crustacea). Mar. Biol. 78: 59-67.

HUGHES, J.E., 1982. Life history of the sandybeach amphipod Dogielinotus loguan (Crustacea: Dogielinotidae) from the outer coast of Washington, USA. *Mar. Biol.* 71: 167-176.

IKEDA, T. & E. KING FAY, 1981. Metabolic activity of zooplankton from the Antarctic Ocean. *Austr. J. mar. Freshw. Res.* 32: 921-930. (i.a. Parathemisto gaudichaudii)

IMADA, K., A. HIRAYAMA, S. NOJIMA & T. KIKUCHI, 1981. (The microdistribution of phytopel amphipoda on Sargassum seaweeds.) *Res. Crust.* 11: 124-137. (In Japanese)

IMADA, K. & T. KIKUCHI, 1984. Studies on some reproductive traits of three caprellids (Crustacea: Amphipoda) and their seasonal fluctuations in the Sargassum bed. *Publ. Amakusa mar. Biol. Lab.* 7: 151-172. (Caprella taugaruensis, C. danilevskii and C. decipiens)

INSTINSKY, T., 1983. Zur Bindung von Gammarus fossarum Kock, 1835 (Crustacea, Amphipoda) an den Umweltfaktor Stromung. *Verh. Ges. Oekol.* 10: 569-573.

IVANJUSHINA, E.A., 1984. (The life cycle of Atylus carinatus (Crustacea, Amphipoda) in the Kandalaksha Bay (White Sea).) *Zool. Zh.* 63: 191-196. (In Russian)

JACOBS, R.P.W.M. & W.H.T. HUISMAN, 1982. Macrofauna of some Zostera beds in the vicinity of Roscoff (France) with special reference to relations with community structure and environmental factors. *Proc. K.N.A.W.* C85: 335-356.

JARRETT, N.E. & E.L. BOUSFIELD, 1982. Studies on amphipod crustaceans of the northeastern Pacific region I. 4. Studies on the amphipod family Lysianassidae in the northeastern Pacific region. Hippomedon and related genera. Systematics and distributional ecology. *Natn. Mus. nat. Sci. (Ottawa)*. *Publ. biol. Oceanogr.* 10: 103-128. (New taxa: H. columbianus n. sp. (Br. Col. = H. denticulatus s. Barnard 1954), Weconedon n. gen. (type Hippomedon weconus, further species W. similis n. sp. (Lelu Isl. Br. Col.), H. wirketis, H. boreopacificus, H. minuaculus), and Pseammonyx longimerus n. sp. (Br. Col.))

JAZDZEWSKI, K., 1981. Amphipod crustaceans in the diet of pygoscelid penguins of the King George Island, South Shetland Islands, Antarctica. *Polish polar Res.* 2: 133-144.

JAZDZEWSKI, K. & R. FRANC, 1982. Vertical distribution of Gammarus species on the pier in the Gdynia harbour, Baltic Sea. *Pol. Arch. Hydrobiol.* 29: 221-230.

JAZDZEWSKI, K. & A.W. SKALSKI, 1982. (5th International Colloquium on Gammarus and Niphargus and 3rd International Symposium on Groundwater Ecology.) *Przeglad zool.* 26: 259-265. (In Polish)

JUNERA, J. & J-J. MEUSY, 1982. Vitellogenin and lipovitellins in Orchestes gammarellus (Crustacea, Amphipoda): Labelling of subunits after in vivo administration of tritium-labelled leucine. *Experientia (Basel)* 38: 252-254.

JUST, J., 1981. Tiron bellairsi sp. n. (Amphipoda, Synopiidae) from coral sand in Barbados, with notes on behaviour. *Zool. Scripta* 10: 259-263.

JUST, J., 1983. Anonyx affinis (Crua., Amphipoda: Lysianassidae), commensal in the bivalve Musculus laevigatus, with notes on Metopa glacialis (Amphipoda: Stenothoidae). *Astarte* 12(1979): 69-74.

JUST, J., 1983. Siphonoecetinae subfam. n. (Crustacea, Amphipoda, Corophiidae) 1: Classification. *Steenstrupia* 9:117-135. (Just recognizes the following genera: Siphonoecetes, with subgenera S. s. str., Centraloecetes subgenus nov., (type S. kroyeranus + 4) and Orienteocetes (type S. orientalis + 1); Bubocorophium (here also S. conchicola); Rhinoecetes n. gen. (monotypic for

R. robustus sp. nov. from New South Wales, Australia); Australoecetes n. gen. (type S. sellicki, here also S. australis); Carriboecetes n. gen. (monotypic, for C. barbadensis s. sp. from Barbadoa); Concholeastes; and Africoecetes n. gen. (monotypic for Concholeastes armatus).)

KAFANOV, A.I. & P.A. FEDOTOV, 1982. (Relationships between body length and body weight in some amphipod crustaceans from the shore of Vityaz Bay (Sea of Japan). Biol. Morya (Vladivostok) (0) 4: 12-19. (In Russian, not seen)

KAMENSKAYA, D.E., 1979. (Some data on the biology of Jassa falcata (Montagu) (Amphipoda, Gammaridae) in the Sea of Japan.) Pp 104-107 in A.P. KUZNETSOV (ed). Ekologiya donnogo naeleniya Shelfovoy Zony. Inst. okeanol. An SSSR, Moskva. (In Russian)

KAMENSKAYA, O.E., 1980. (Deep-sea Amphipoda (Amphipoda, Gammaridea) collected from drifting station 'North-Pole 22'.) Pp 241-251 in M.E. VINOGRADOV & I.A. MELNIKOV (eds). Biologiya taentral'nogo arktichestogo bassejna. NAUK, Moskva, 180 pp. (In Russian. Seventeen species in 9 families, of which Halirages caecum n. sp. and Lilleborgia dubia n. sp. (a homonym? (WV) are described as new. The material stems from depths of 2710-3580 m in the Canada basin.)

KAMIHIRA, Y., 1981. Life history of sand-burrowing amphipod Haustoriooides japonicus (Crustacea: Dogielinotidae.) Bull. Fac. Fish. Hokkaido Univ. 32: 338-348.

KANNEWORFF, E. & W. NICOLAISEN, 1983. A simple, hand-operated quantitative bottom sampler. Ophelia 22: 253-255.

KARAMAN, G.S., 1980. Gooopharinia iliffei, new genus and species from Bermuda, with remarks to other genera and species (fam. Phoxocephalidae) (Contribution to the knowledge of the Amphipoda 103). Studia Marina, Kotor 9-10: 149-175. (C. iliffei n. gen. n. sp. is described from a Bermuda cave. Also Harpinia laevis is redescribed from Norwegian material, and a key provided to the genera of the Harpiniinae.)

KARAMAN, G.S., 1980. Contribution on the knowledge of the Amphipoda 113. Redescription of Niphargus aquilex Schiodte and its distribution in Great Britain. Biosistematiка 6: 175-185.

KARAMAN, G.S., 1980. Contribution to the knowledge of the Amphipoda 116. Revision of some genera of family Corophiidae with description of three new genera. Poljoprivreda i Sumarstvo 26(3): 3-12. (New taxa: Dactylocorophium n. gen. (type and only sp. Unciola obliquua --Note, Bouafield 1973 previously created Pseudunciola for this species (LW)); Pedicorophium n. gen. (type and only sp. Unicola laminosa), and Bubocorophium (type sp. Siphonoecetes tanabensis, possibly also S. conchicola.)

KARAMAN, G.S., 1980. First discovery of Niphargus bihorensis Schell 1940 (fam. Gammaridae) in Italy with remarks to N. elegans Garb. 1894 (Contributions to the knowledge of the Amphipoda 111). Glas. Republ. Zavoda Zast. Prirode-Prirodnjackog Muzeja Titograd 13: 71-80.

KARAMAN, G.S., 1980. New genus of family Gammaridae from Baikal Lake, Abludogammarus, n. gen. with reference to genus Ommatogammarus Stebb. Montenigrin Acad. Sci. Arta, Glaanik Sect. nat. Sci. 3: 149-169. (Abludogammarus n. gen. has a type and only sp. Gammarus flavus Dybowsky, which is redescribed. Also G. albinus, the type sp. of Ommatogammarus, is illustrated.)

KARAMAN, G.S., 1980. Revision of genus Idunella Sars with decription of new species, I. sketi n. sp. (fam. Liljeborgiidae). Acta adriat. 21: 409-435. (The genera Idunella and Listriella are united under the former name, while Sextonia is reestablished as a monotypic genus. A key to Idunella spp is provided and I. sketi n. sp. from Bermuda described.

KARAMAN, G.S., 1980. Revision of the genus Iphimedia Rathke 1843 with description of two new genera, Anisoiphimedia and Stegopanoploea, n. gen. (fam. Acanthonotozomatidae) (Contribution to the knowledge of the Amphipoda 117). Poljoprivreda i Sumarstvo 26(4): 47-72. (New taxa: Anisoiphimedia n. gen. (type and only sp. Iphimedia haurakiensis) and Stegopanoploea n. gen. (type and only sp. Panoploea joubini. Panoploea ? hedgpethi is removed to Coboldus. Iphimedia quasimodus is illustrated from Adriatic material.)

KARAMAN, G.S., 1981. Contribution to the knowledge of the Amphipoda 118. Revision of genus Metacrangonyx Chevr. 1900. Glas. Republ. Zavoda Zast. Prirode- Prirodnojackog Muzeja Titograd 14: 31-46. (Afrocrangonyx n. gen., with type Metacrangonyx spinicaudatus and further spp. M. panousei (redescribed here) and M. longicaudus. Also Pygocrangonyx remyi is redescribed. Metacrangonyx s. str. now only contains the type species, M. longipes.)

KARAMAN, G.S., 1981. Genus Gammarellus Herbst and the value of its species (fam. Gammaridae) (Contribution to the knowledge of the Amphipoda 122). Poljoprivreda i Sumarstvo 27(4): 27-43. (G. angulosus is a junior synonym of the Black Sea species G. carinatus. G. homari is not known from the Mediterranean.)

KARAMAN, G.S., 1981. Description and distribution of Niphargus longicaudatus Ruffo in Yugoslavia and Italy (fam. Gammaridae) (Contribution to the knowledge of the Amphipoda 115). Biosistematiка 7: 39-49. (N. longicaudatus, described as spp. of N. kochianus, is given full species rank.)

KARAMAN, G.S., 1981. Redescription of Melita planaterga Kunkel, 1910 from Bermuda islands with revision of genera Melita Leach and Abludomelita n. gen. (Contribution to the knowledge of the Amphipoda 119). Poljoprivreda i Sumarstvo 27(1): 29-50. (Abludomelita n. gen., with type species Melita gladiosa and 24 further species, is split off from Melita s. str. on characters of mx.2 and ur.3. Melita grandimana is removed to Dulichiella, Crangonyx shimizui to Melita.)

KARAMAN, G.S., 1981. Revision of Bogidiella-group of genera with description of some new taxa (fam. Gammaridae) (Contribution to the knowledge of the Amphipoda 121). Poljoprivreda i Sumarstvo 27(3): 23-44. (With key to genera. The following new taxa are described: Bogidiella (B) chitalensis (Chiapas, Mexico), B. (B) mexicana (Chiapas, Mexico), Bogidiella subgen. Eobogidiella n. subgen. (type sp. B. purmamaricensis, further sp. B. brasiliensis), Marinobogidiella n. gen., monotypic, with type sp. B. tyrrhenica.)

KARAMAN, G.S., 1981. Revision of genus Maerella Chevr. 1911 with description of Coxomaerella pirloti, n. gen. n. sp. and Maerella ledoyerii n. sp. (fam. Gammaridae) (Contribution to the knowledge of the Amphipoda 120). Poljoprivreda i Sumarstvo 27(2): 37-50. (Maerella tenuimana is redescribed. M. tenuimana s. Nagata 1965 and Ledoyer 1979 is redescribed as M. ledoyerii n. sp. (type loc. Madagascar). M. tenuimana s. Pirlot 1936 is redescribed as Coxomaerella pirloti n. gen. n. sp. (type loc. Aru islands)).

KARAMAN, G.S. & J.L. BARNARD, 1981. The synonymization of Triodog K.H. Barnard with Ampelisca Kroyer (Crustacea, Amphipoda). Ann. S. Afr. Mus. 84: 255-264.

KARAMAN, G.S., 1982. Contribution to the knowledge of the Amphipoda 101. Niphargus pseudocaspicus, n. sp. and N. caelestis, n. sp., new names for some Niphargus species. Poljoprivreda i Sumarstvo 28(1): 73-77. (N. pseudocaspicus n. name for N. caspius Derzhavin (non Grimm). N. caelestis

n. name for N. stygius longidactylus Birstein (non N. kochianus longidactylus Ruffo).)

KARAMAN, G.S., 1982. Contribution to the knowledge of the Amphipoda 125. First discovery of genus Niphargopsis Chevr. 1922 in Yugoslavia with revision of the genera (fam. Gammaridae). Poljoprivreda i Sumarstvo 28(2): 87-103. (New material from Serbia show N. trispinosus to be a junior synonym of N. caspary, so that the genus is monotypic.)

KARAMAN, G.S., 1982. Critical remarks to the recent revisions of Bogidiella-group of genera with study of some taxa (fam. Gammaridae) (Contribution to the knowledge of the Amphipoda 126). Poljoprivreda i Sumarstvo 28(3-4): 31-57. (Bogidiella (Guagidiella) arganoides n. sp. (=B. cf. arganoi Ruffo & Vigna Taglianti 1977, from well in Oaxaco, Mexico). B. semidenticulata is redescribed from new Serbian material. Diagnoses of and a key of all genera are provided. Somagidiella Stock is a junior objective synonym of Afridiella. B. arganoi is placed in subgen. Guagidiella. Eobogidiella is upgraded from subgeneric to generic rank.

KARAMAN, G.S., 1982. First discovery of Niphargus aquilex Schiodte in Italy. (Contributions to the knowledge of the Amphipoda 114). Pol. Arch. Hydrobiol. 29: 239-246.

KARAMAN, G.S., 1982. One new subterranean amphipod from Yugoslavia, Niphargus jugoslavicus, n. sp. (fam. Gammaridae) (Contribution to the knowledge of the Amphipoda 124). Poljoprivreda i Sumarstvo 28(2): 119-130. (N. jugoslaviclus n. sp. from eastern Serbia. N. melticensis, described as spp. of N. kochianus, is upgraded to specific status.)

KARAMAN, G.S., 1982. Contribution to the knowledge of the Amphipoda 127. New freshwater subterranean genus Relictoseborgia n. gen. with remarks to genus Seborgia Bousfield (Fam. Sebidae). Studia Marina 11-12: 85-94. (created for Seborgia relicta of Holsinger)

KARAMAN, G.S., 1983. Contribution to the knowledge of the Amphipoda 128. A new subterranean species from Jugoslavia, Niphargus lattingerae, n. sp. (Fam. Gammaridae). Poljopr. Sumarst. 29: 37-46.

KARAMAN, G.S., 1983. Three poorly known subterranean Niphargus species (fam. Gammaridae) from Yugoslavia. (Contribution to the knowledge of the Amphipoda 132). Poljopr. Sumarst. 29: 37-56. (Deals with N. wolffi n. rank, N. minor n. rank, and N. labacensis n. rank, all originally described as spp. of N. kochianus.)

KASYMOV, A.G., 1982. The role of Azov- Black Sea invaders in the productivity of the Caspian Sea benthos. Int. Rev. ges. Hydrobiol. 67: 533-541. (Not seen)

KENSLEY, B., 1983. Biogeographic relationships of some southern African benthic Crustacea. Mem. Austr. Mus. 18: 173-181.

KIMBLE, R., 1982. The distribution of the genus Amphilisca (Crustacea: Amphipoda) with respect to sediment and bathymetry on the Texas inner shelf. Pp. 249-256 in J.R. DAVIS (ed), Proc. Symp. recent benthol. Invest. Texas adj. States. Aquat. Sci. Section, Texas Acad. Sci. Austin. (Not seen)

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KNEIB, R.T., 1982. Habitat preference, predation, and the intertidal distribution of gammaridean amphipods in a North Carolina salt marsh. J. exp. mar. Biol. Ecol. 59: 219-230.

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KOLDING, S., 1981. A key for marine and brackish water Gammarus species (Crustacea, Amphipoda). *Natura jutland.* 19: 57-60. (A Danish study)

KOLDING, S., 1981. Habitat selection and life cycle characteristics of five species of the amphipod genus Gammarus in the Baltic. *Oikos* 37: 173-178.

KOLDING, S. & T.M. FENCHEL, 1981. Patterns of reproduction in different populations of five species of the amphipod Gammarus. *Oikos* 37: 167-172.

KOLDING, S., 1982. (Speciation in amphipods). *Naturens Verden* 1982 (10): 357-369. (In Danish)

KOLUPAEV, B.I., 1982. (Respiratory indices in ecologically different gammarid species.) *Ekologiya* 0(B): 80-81. (In Russian, not seen. Compares Eulimnogammarus verrucosus and Gammarus lacustris.)

KRAFT, K.L., 1979. Pontoporeia distribution along the Keweenaw shore of Lake Superior affected by copper tailings. *J. Great Lakes Res.* 5: 28-35.

KUDRYASHOV, V.A. & S.A. LENSKAYA, 1978. (Biogeographic structure of the intertidal amphipod fauna of the Chukotka coast (Bering Sea)). *Nauchnye Soob. Inst. Biol. Morya, Vladivostok* 3: 45-48. (In Russian, not seen)

KUDRYASHOV, V.A., 1979. (Fauna and ecology of amphipods from the littoral zone of the northern Tatar strait.) Pp 123-137 in D.G. KUSAKIN (ed), *Iasledovaniya pelagicheskikh i donnykh organizmov dal'nevostochnykh morej. DVNTs AN SSSR, Vladivostok.* (In Russian, not seen. Dogielinotus golikovi n. sp. is described.)

KUHLMANN, D., O. FUKUHARA & H. ROSENTHAL, 1982. Shrinkage and weight loss of marine fish food organisms preserved in formalin. *Bull. Nansen reg. Fish. Res. Lab.* 14: 13-18. (Not seen, 'Ten % wet weight reduction in Gammarus after 100 days'.)

KULIKOV, A.S., 1980. (On the ecology of two gammarids (Amphipoda, Gammaridae) and a mysid (Mysidacea) in the cryopelagic biocoenosis of the Central Arctic basin.) Pp 111-117 in H.E. VINOGRADOV & I.A. MELNIKOV (ed), *Biologiya tsentral'nogo arkticheskogo Bassejna NAUKA, Moscow.* (In Russian, not seen. Data on Myais polaris, Gammarus wilkitzkii and Apherusa glacialis. Can anyone get me a copy of this paper?-WV)

KUL'KINA, L.V., 1982. (Helmintha of gammarids in water bodies of Tien Shan.) *Izv. Akad. Nauk Kazakh. SSR, Ser. Biol.* 0(2): 30-38. (In Russian. Eight helminth spp. in Gammarus lacustris and G. balcanicus)

KURANDIAN, D.P., 1981. (Reproduction and fecundity of Chaetogammarus ischnus major in the Lower Dniepr). Pp 71-74 in G.G. VINBERG (ed), *Ornovy Izuchenija Presnovodnykh Ekosistem. Leningrad.* (In Russian, not seen)

LAMPITT, R.S., N.R. MERRETT & M.H. THURSTON, 1983. Interrelationship of necrophagous amphipods, a fish predator, and tidal currents in the deep sea. *Mar. Biol. (Berl.)* 74: 73-78.

LAND, M.F., 1981. Optics of the eyes of Phronima sedentaria and other deep-sea amphipoda. *J. comp. Physiol. A. Neural Behav. Physiol.* 145: 209-226.

LANDRUM, P.F. & D. SCAVIA, 1983. Influence of sediment on anthracene uptake, depuration, and biotransformation by the amphipod Hyalella azteca. *Can. J. Fish. aquat. Sci.* 40: 298-305.

LARSEN, L.N., 1983. The heart ultrastructure of Gammarus lacustris G.O. Sars and Gammarus pulex(L.) (Crustacea, Amphipoda). *Zool. Anz.* 210: 289-295.

LARSSON, R., 1982. A rickettsial pathogen of the amphipod Rivulogammarus pulex. *J. Invertebr. Pathol.* 40: 28-35.

LAUBITZ, D.R., 1983. A revision of the family Podoceridae (Amphipoda: Gammaridea). *Mem. Austr. Mus.* 18: 77-86. (The Iciliidae n. fam. are

monotypic based on Icilius punctatus. The Podoceridae are divided into 4 subfamilies: Podocerinae n. subfam. (with Podocerus (c. 30 spp), Laetmatophilus (7), Cryptophium (2) and Leipsuropus (1); the Xenodicinae n. subfam. (Xenodice (1) and Styloxenodice n. gen. (monotypic, for X. macrophthalmus), the Neoxenodicinae n. subfam. (monotypic, for Neoxenodice (2)), and the Dulichiinae n. subfam. (with Dulichia (5), Dulichiopsis (6), Dyopedos (9) and Paradulichia (1)). Diagnoses of and a key to all genera are provided, together with a synoptic key.)

LAZO-WASEM, E., 1983. Additional record of the terrestrial amphipod Arcitalitrus sylvaticus (Haswell, 1880) in California, USA. *Crustaceana* 45: 213-214.

LEBER, K.M., 1982. Seasonality of macroinvertebrates on a temperate high wave energy sandy beach. *Bull. mar. Sci.* 32: 86-98. ('Haustoriid amphipods dominant in winter'. A study from N. Carolina.)

LEDOYER, M., 1982. Crustacees Amphipodes Gammariens. Famille des Acanthonotozomatidae et Gammaridae. *Faune de Madagascar* 59(1): 1-598. (In this monumental work, the first of two volumes, the author sums up his many previous studies on Malagasy marine amphipoda and adds a host of new material, including somewhat incongruously a fair number of deep-sea species (2500-4500 m) that happened to be taken near Madagascar. All species are fully described and illustrated, with notes on 'Affinites'. The author also gives diagnostic keys to all taxa (both in French and English, a very polite gesture to a largely monolingual English-speaking world), and synoptic diagnoses to all families. The classification follows mostly Barnard's Handbook, but a number of different proposals are noted. The book contains a large number of new and interesting discoveries, but no spectacular novelties, and only two new genera are created: Ochlesodius (an acanthonotozomatid with some ochlesid characters) and Lepechinellopsis (Dexaminidae). Further new taxa and changes in classification: Ochlesodius n. gen. (Acanthonotozomatidae), monotypic, with O. spinicornis n. sp. (ilea Glorieuses), Angelisca nosaiseensis n. sp. (Nosy Be), Byblis gloriosae n. sp. (3700 m), ? Gitanopsis tenuipes n. sp. (coral reef), Moolapheonoidea angustipes n. sp. (coral reef), Amphithoe alluaudi (=A. indica Nayar, non M. Edw.), A. cavimana (=Cymadusa brevidactyla Ledoyer 1972, non Chevreux, and A. kerqueleini Rabindranath non Stebbing), Cymadusa filosa s.l. (different forms), Paranamixia madagascarensis n. sp. (=P. bocki Ledoyer, non Schellenberg and P. indicus Ledoyer, non Sivaprakasan), Colomastix brevicornis n. sp. (Banc Waltera), Aorcho gracilipes n. sp. (2500 m), Bonnierella dimorpha n. sp. (3716 m), Cheiriphotis minima n. sp. (coral reef), Gammaropsis atlantica (forme A & forme B), G. chelifera (of which Eurysetheus semichelatus is a synonym), Grandidierella bonnieroidea robusta n. sp. (Tulear), G. longidactylus n. sp. (coral reef), Konatopus tulearensis n. sp. (Nosy Ve), Lemboidea caecua n. sp. (625 m), Leptocheirus dufresni n. sp. (Banc Waltera), ? Maragopsis obliquimanus n. sp. (Mayotte), Pseudomegamphopus pseudochelatus n. sp. (=P. chelatus Ledoyer 1979 non Lemboidea chelatus Walker), Atylus tulearensis n. sp. (=A. granulosus Ledoyer 1979, non Walker), Guernea (Haustoriopsis) brevispinis n. sp. (Tulear), G. (? G) longicornis n. sp. (Nosy Be), G. (G) spinicornis n. sp. (Tulear), Lepechinella madagascarensis n. sp. (2300-2500 m), Lepechinellopsis n. gen. (Dexaminidae), type L. brevicaudata n. sp. (3710 m), further species L. inaequicaudata n. sp. (3450 m), Paralepechinella longicornis n. sp. (3716 m), Sphaerophthalmus cavimana n. sp. (Nosy Be), Cleonardo brevipes n. sp. (2500 m), Eusairoidea dentimerus n. sp. (Banc Waltera), Eusirrus latirostris n. sp. (2500 m), Rhachotropis gloriosae n. sp. (615-625 m), Bathyceradocus stephensi (Figures labelled Benthedius spinosus n. gen. n. sp.).

Ceradocus tatteralli n. sp. (=C. ? rubromaculatus s. Tatterall 1922 & Ledoyer 1968, type loc. Tulear), Indocretus n. subgenus of Cheirocretus, type Cheirocretus (I.) inermis, further sp. C (I.) unidentatus, Dulzura paucispinosa n. sp. (Iles Glorieuses) Dentelaamopus n. subgen. of Elesnopus, type E. (D.) spinipalpus n. sp. (mangrove, no further loc.), E. walteri n. sp. (Banc Walters), Eriopiss inaequicaudata n. sp. (Tulear), Gammareus sp. (new to the Indian Ocean, 770-860 m!), Hedzia (Liaogoceradocus) dentifera n. sp. (Sarodrano), Jerbania (recte Jerbarnia) tridentata n. sp. (Banc de la Zelee), Maera gloriae n. sp. (iles Glorienses), M. multispinosa n. sp. (240 m), M. pacific form A & B, M. pedonculata n. sp. (Banc de la Zelee), M. pseudomarginata n. sp. (Tulear, = M. mastersi Ledoyer, non Haswell), Mallacoota latidactylus n. sp. (450 m), Melita alluaudi n. sp. (Fort Dauphin), Metaceradocus bidentatus n. sp. (Italy), ? M. inermis n. sp. (Banc Walters) Meximaera sinuata n. sp. (Banc Walters) and Parelasmopus zelei n. sp. (Banc de la Zelee).)

LEDOYER, M., 1983. Les Oedicerotidae (Crustacea Amphipoda) de la mer mediterranee. Boll. Mus. Civ. St. Nat. Verona 9: 45-84. (Deals with ?Arrhis mediterranea n. sp. (Napoli), Bathymedon acutifrons, B. banyulensis n. sp. (SE France), B. monoculodiformis n. sp. (Napoli), Halocreion sequicornis, Monoculodes acutipes n. sp. (Marseille), M. carinatus, M. gibbosus, M. griseus, M. latissimus, M. packardi, M. subnudus, Oediceroides pilosus n. sp. (Napoli), Oediceropsis brevicornis, Perioculodes longimanus angustipes n. sp. (Marseille), Westwoodilla caecula and W. rectirostris. Also the genera Pontocrates (2 spp.) and Synchelidium (2 spp.) are discussed.)

LEE, W.Y. & C.R. ARNOLD, 1983. Chronic toxicity of ocean-dumped pharmaceutical wastes to the marine amphipod Amphithoe valida. Mar. Poll. Bull. 14: 150-153.

LENANTON, R.C.J., A.I. ROBERTSON & J.A. HANSEN, 1982. Nearshore accumulations of detached macrophytes as nursery area of fish. Mar. Ecol. Progr. Ser. 9: 51-58. (Allorchestes compressus is main prey for 0 + year classes of 4 surf zone fish species in W. Australia.)

LEWIS, S.M. & B. KENSLEY, 1982. Notes on the ecology and behaviour of Pseudamphithoides incurvaria (Just) (Crustacea, Amphipoda, Ampithoidae). J. nat. Hist. 16: 167-174. (Not seen)

LIESHOUT, S.E.N. van, 1983. Presence of a member of the genus Saliweckelia (Amphipoda) on Tortuga, Venezuela. Bijdr. Dierk. 53: 244-246. (Specimens intermediate between S. emarginata and S. holsingeri.)

LINCOLN, R.J. & M.H. THURSTON, 1983. Valettietta, a new genus of deep-sea amphipod (Gammaridea: Lysianassidae) with descriptions of two new species from the North Atlantic Ocean. Bull. Br. Mus. nat. Hist. (Zool.) 44: 85-101. (Valettiopsis macrodactyla is redecribed. Valettietta n. gen. has 2 spp., V. lobata n. sp. and V. gracilis n. sp., both from abyssal depths in the Bay of Biscay.)

LINDEMAN, D.H. & W.T. MOMOT, 1983. Production of the amphipod Hyalella azteca (Saussure) in a northern Ontario lake. Can. J. Zool. 61: 2051-2059.

LIPSKAYA, N.Y., 1980. (Intensity of metabolism in some hyperiid species from the southern Pacific Ocean.) Gidrobiol Zh. 16(6): 14-17. (In Russian, not seen)

LOCKWOOD, A.P.M.L., S.R.L. BOLT & M.E. DAWSON, 1982. Water exchange across crustacean gills. Pp 129-147 in D.L. HOULIHAN, J.C. RANKIN & T.J. SHUTTLEWORTH (eds), Gills. Exp. Biol. Seminar Ser. 16. Cambridge Univ. Press.

LOM, J. & I. DESPORTES, 1981. Affinites de Paramyxxa paradoxus Chatton, 1911, parasite de Poecilochaetus serpens (Annelide Polychete) avec les

Marteiliidae Sprague, parasite d'Huitrea et du Crustace Orcheatia gammarellus. CR Acad. Sci. Paris 292: 627-632.

LOPRETTO, E.C., 1983. (On the bioecology of the freshwater amphipod Hyalella pampeana Cavalier 1. Reproductive behavior). Limnobiologia 2: 371-378 (In Spanish, not seen).

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LOWRY, J.K., 1981. A redescription of Sphaerophthalmus grobbeni Spandl based on type material from the Red Sea and new material from the Great Barrier Reef (Amphipoda, Dexaminidae). Crustaceana 41: 190-198. (Dexaminoculus n. gen. is proposed as replacement name for the preoccupied Sphaerophthalmus.)

LOWRY, J.K., 1982. The status of the gammaridean Amphipoda collected by the Australasian Antarctic Expedition 1911-1914. Crustaceana 42: 319-320. (Missing type material)

LOWRY, J.K. & G.D. FENWICK, 1982. Rakirosa, a new amphipod genus from The Snares, New Zealand (Gammaridea, Corophiidae). J. nat. Hist. 16: 119-125. (Rakirosa rima n. gen. n. sp., a species living in empty barnacle shells.)

LOWRY, J.K. & G.D. FENWICK, 1983. The shallow-water gammaridean Amphipoda of the subantarctic islands of New Zealand and Australia: Melitidae, Hadziidae. J. roy. Soc. N.Z. 13: 201-260. (The following species are described and illustrated: Ceradocopsis carnleyi (transferred from Maera), C. kergueleni, C. macracantha n. sp. (Auckland Isl.), C. peke, C. tristanaensis (from Tristan da Cunha, the redescribed type material of Maeracunha tristanensis), Gammarella hybophora n. sp. (Snares), Hoho n. gen. (Melitidae, type Mallacoota marilla app phenotype, further spp. H. hirtipalma n. sp. (Snares Isl., is Mallacoota marilla Ps. phenotype) and Mallacoota carteta), Maera incerta, Tagua n. gen. (Melitidae) type and only species T. aporema n. sp. (Snares); Zhadia n. gen. (Hadziidae), type and only species Z. subantarctica n. sp. from Auckland Isl.)

LOWRY, J.K. & H.E. STODDART, 1983. The amphipod genus Parawaldeckia in New Zealand waters (Crustacea, Lysianassoidea). J. roy. Soc. N.Z. 13: 261-277. (Deals with P. angusta n. sp. (Lyttelton Harbour), P. karaka n. sp. (Wellington Harbour; this is the 'P. stephensi' on which Fincham published his studies of periodic swimming behaviour), P. parata n. sp. (Hawke Bay) and P. stephensi).

LOWRY, J.K. & H.E. STODDART, 1983. The shallow-water gammaridean Amphipoda of the subantarctic islands of New Zealand and Australia: Lysianassoidea. J. roy. Soc. N.Z. 13: 279-394. (In this important study the authors informally recognize three groups of lysianassoids in their material (there are more elsewhere), v.z. the conicostomatids, the lysianassids and the uristids. The conicostomatid group consists of Acidostoma, Acontiosoma, Conicostoma n. gen. (described in a paper in press), Ocoingo, Phoxostoma, Scolopostoma n. gen., Shackletonia, Socarnoides (type sp. only) and Stomacontion. A number of other species with 'conical mouthparts' are considered not to belong to this natural group, but to be convergent. A key to and diagnoses of the conicostomatid genera are provided. The type and only species of Scolopostoma n. gen. is Stomacontion prionoplax. The following spp are described and illustrated: Acontiosoma marionis, A. tuberculata n. sp. (Snares), Stomacontion acutibasalis (transferred from Acontiosoma), S. hurleyi n. sp. (Snares), S. pepinii (with S. kergueleni, a synonym based on secondary males), S. pungapunga n. sp. (Campbell Isl.), Ensayers iare n. sp. (Snares), Kakanui n. gen. (lysianassid group), type sp. K. punui n. sp. (Snares) further species Ambasia integricauda (here also? Parambasia sp. of Bellan-Santini & Ledoyer 1974), Lysianopais tieke n. sp. (Campbell Isl.), Parambasia rossii (of which Pseudambasia bipartita is the male).

The history of the genus Parawaldeckia is discussed and a key to females provided; fully described are P. dabita n. sp. (Snares), P. hirsuta n. sp. (Campbell Isl.), P. kidderi (with reidentification of earlier material published under this name), P. pulchra n. sp. (Snares), P. suzae n. sp. (Auckland Isl.), P. thomsoni, P. veaca n. sp. (Snares), Hippomedon hake n. sp. (Snares), H. manene n. sp. (Snares), H. matikuku n. sp. (Snares), Orchomene aahu n. sp. (Snares), Pseudorchomene coatai, Tryphosella serana n. sp. (Snares) and Pseudonesimoides cornutilebris. In an appendix on p. 394 Conicostoma karta n. sp. (Kangaroo Isl., S. Australia) is typified; it will be described elsewhere.)

LOWRY, J.K., 1984. Maxillipioides commensalis, a second species in the family Maxillipiidae from Papua New Guinea (Amphipoda, Gammaridea). Crustaceana 46: 194-201. (This new species lives among the branches of a gorgonacean, Melithaea sp., Maxillipioides is closely related to Icilius, the two genera probably forming the family Iciliidae, near to the Paramphithoidae)

MACDONALD, A.G. & I. GILCHRIST, 1982. The pressure tolerance of deep sea amphipods collected at their ambient high pressure. Comp. Biochem. Physiol. A 71: 349-352.

MACKO, A.S., W.Y. LEE & P.L. PARKER, 1982. Nitrogen and carbon isotope fractionation by two species of marine amphipods: laboratory and field studies. J. exp. mar. Biol. Ecol. 63: 145-149. (Amphiooe valida and Parhyale hawaiensis)

MACKO, S.A., M.L.E. ESTEP & W.Y. LEE, 1983. Stable hydrogen isotope analysis of foodwebs on laboratory and field populations of marine amphipods. J. exp. mar. Biol. Ecol. 72: 243-250.

MACQUART-MOULIN, C., 1982. Effets de l'agitation sur les rythmes d'émergence des Peracarides fouisseurs Urothoe elegans (Amphipoda) et Eurydice inermis (Isopoda). Tethys 10: 236-244.

MAGNHAGEN, C. & A.M. WIEDERHOLM, 1982. Food selectivity versus prey availability: a study using the marine fish Pomatoschistus microps. Oecologia 55: 311-315. (Corophium volutator is main prey.)

MAGNIETTE, F. & T. GINSBURGER-VOGEL, 1982. Etablissement d'une table chronologique du développement embryonnaire à différentes températures, chez Orchestia gammarellus (Pallas) (Crustace Amphipode). Bull. Soc. zool. Fr. 107: 101-110.

MARCH, B.G.E. de, 1982. Decreased day length and light intensity as factors inducing reproduction in Gammarus lacustris lacustris Sara. Can. J. Zool. 60: 2962-2965.

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MATHIAS, J.A. & M. PAPST, 1981. Growth, survival and distribution of Gammarus lacustris (Crustacea, Amphipoda) stocked into ponds. Can. techn. Rep. Fish. aquat. Sci. 989: 1-11.

MATHIAS, J.A., J. MARTIN, M. YURKOWSKI, J.G.I. LARK, M. PAPST & J.L. TABACHEK, 1982. Harvest and nutritional quality of Gammarus lacustris for trout (Salmo gairdneri) culture. Trans. Am. Fish. Soc. 111: 83-89.

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MATHIEU, J., 1982. Relations entre l'activité locomotrice et le métabolisme respiratoire de Niphargus rhenorhodanensis (Amphipode hypogé) en fonction

de différentes conditions expérimentales. Vie Milieu 32: 183-192.

MATHIEU, J., 1983. Le métabolisme respiratoire de Niphargus (Amphipode hypogée). Déterminisme de sa variabilité par la comparaison de deux populations de Niphargus rhenorhodanensis. Unpubl. Thesis., Univ. Cl. Bernard, Lyon, 59 pp.

MATHIEU, J., 1983. Métabolisme respiratoire d'une population karstique de Niphargus rhenorhodanensis (Amphipode, Gammaride). Influence de la température. Bull. Soc. zool. Fr. 108: 67-77.

MATSUDA, R., 1982. The evolutionary process in talitrid amphipods and salamanders in changing environments, with a discussion of 'genetic assimilation' and some other evolutionary concepts. Can. J. Zool. 60: 733-749.

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MAYRAT, A., 1981. Nouvelle définition des yeux simples et composés chez les Arthropodes. Le cas des Amphipodes et des Cumaces. Arch. Zool. exp. gen. 122: 255-236.

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MELNIKOV, I.A. & A.S. KULIKOV, 1980. (Cryopelagic fauna of the Central Arctic Basin.) Pp 97-111 in VINOGRADOV, M.E. & I.A. MELNIKOV (eds), Biologiya tsentral'nogo arkticheskogo Bassejno. NAUKA, Moskva. (In Russian, not seen, most unfortunately.)

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species of Antarctic crustaceans. Cell Tissue Res. 221: 625-632. (i.a.
Orchomene pleba)

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 (amphipods included)

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Corophium volutator on the West coast of Sweden. Neth. J. Sea Res. 16:
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truganini n. sp., Cyproidea marmorata n. sp., Mesoproboloidea cruxlorraina
 n. sp., and Raumahara judithae n. sp. Keys to the genera Cypsiphimedia,
Austropheonooides, Mesoproboloidea and Raumahara are provided.)

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 sp.)

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MOORE, P.G., 1983. Pagurissea schembrii gen. et sp. n. (Crustacea, Amphipoda)-
 associated with New Zealand hermit crabs, with notes on Isaea elmhirsti
 Patience. Zool. Scr. 12: 47-56. (A new isaeid from the Otago Peninsula,
 S. Island, N.Z.)

MOORE, P.G. & A.A. MYERS, 1983. A revision of the Haplocheira group of genera
 (Amphipoda, Aoridae). Zool. J. Linn. Soc. 79: 179-221. (Anonychocheirus
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Kuphocheira emancipata n. sp. also from Anvers Island. The synonymy of
Haplocheira barbimana s. l. is disentangled and H. pulmosa resurrected for
 the Antarctic material, while cold-temperature specimens consist of 3
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(Atylus megalops n. sp. (17°56'N, 67°09'E) and *Amphithoe ramondi*)

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and compared with L. furina and L. richardii, with which later sp. it has been confused i.a. by Lincoln (1979)).

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Gammaridae) du desert de Sinai. Israel J. Zool. 31: 151-156. (*M. sinaiicus* n. sp. Ruffo considers *Afrocrangonyx* to be a synonym of *Metacrangonyx*)

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SCHNEIDER, D.E., 1980. Physiologic responses of Arctic epibenthic invertebrates to winter stresses and exposure to Prudhoe Bay crude oil dispersions. NOAA/OMPA- AR- 80-1: 413-475. (i.a. *Anonyx nugax* and *Boeckosimus affinis*)

SCHWEDHELM, E., 1980. Thermopraferenz, Schigmaktivitat, Mortalitat und Hautungsfrequenz von *Gammarus fossarum* und *Gammarus roeselii* in Abhangigkeit von Temperaturschocks. Verh. Ges. Okol. 8: 295-303.

SCHWEDHELM, E., 1982. (Thermopreference of *Gammarus fossarum* and *Gammarus roeselii* (Crustacea, Amphipoda) in dependence on season.) Zool. Anz. 208: 367-374. (In German, not seen)

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Aaphipoda) in the Laguna di Venezia.) Boll. Mus. Civ. St. nat. Venezia 33(1982): 91-93. (In Italian. Formerly in the Mediterranean only found in the extreme eastern part)

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SEKIGUCHI, H. & Y. YAMAGUCHI, 1983. Scavenging Gammaridean amphipods from the deep-sea floor. Bull. Fac. Fish., Mie Univ. 10: 1-14. (Data from traps at depth from 390-1015 m along Pacific coast of central Japan. Five spp. collected, among which Anonyx hayashii n. sp. is new. The others are A. lilljeborgii, Euonyx lequeus, Schiasturella pulchra and Scopelochirus hopei.)

SEMENOVA, T.N., 1981. (Parapronoe elongata sp. n. (Cruatacea, Hyperiidea) and discussion of status of the genus Synpronoe Stebbing, 1888). Zool. Zh. 60: 1581-1585. (In Russian. Parapronoe elongata n. sp. is described from off Lord Howe Isl., S.W. Pacific, 1257 m. As the new species is intermediate, Synpronoe is synonymized with Parapronoe.)

SHACKLOCK, P.F. & E.W. DOYLE, 1983. Control of epiphytes in seaweed cultures using grazers. Aquaculture 31: 141-152. (Gammarus lawrencianus and the isopod Idotea baltica)

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SHEADER, M., 1983. The reproductive biology and ecology of Gammarus duebeni (Crustacea: Amphipoda) in southern England. J. mar. biol. Ass. U.K. 63: 517-540.

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SHULENBERGER, E., 1982. Biological evidence for a split in the North Pacific central gyre. Deep-Sea Res. 29: 403-410. (A study with Hyperiidea as evidence)

SHYAMASUNDARI, K., 1981. The alimentary canal of amphipods: The foregut. Folia Morph. (Prague) 29: 367-374. (Not seen)

SIEGEL-CAUSEY, D., 1983. Factors determining the distribution of hyperiid Amphipoda in the Gulf of California. Ph.D. Thesis, Univ. of Arizona, 550 pp. (Not seen. No further data available)

SKADSHEIM, A. 1982. The ecology of intertidal amphipoda in the Oslofjord. The life cycles of Chaetogammarus marinus and C. stoerensis. Mar. Ecol. 3: 213-224. (A study from a virtually tideless Norwegian shore)

SKADSHEIM, A., 1983. The ecology of intertidal amphipods in the Oslofjord. Distribution and response to physical factors. Crustaceana 44: 225-244. (SE Norway)

SKADSHEIM, A., 1984. Coexistence and reproductive adaptations of amphipoda: the role of environmental heterogeneity. Oikos 43: 94-103. (A fine study of intertidal Gammarus spp in SE Norway)

SKALSKI, A.W., 1982. Groundwater fauna of the Malopolska gap of the Vistula. Pol. Arch. Hydrobiol. 29: 387-404. (Amph. pp 395-397)

SKET, B., 1980. (Reichtum und Bedrohung der Hohlenfauna des Popovo Polje (Hercegovina, Jugoslawien.) Proc. 7. jugosl. speleol. Kongr. (Herceg.-Novi 1976), 403-409.

SKET, B., 1981. (Distribution, ecological character and phylogenetic importance of Niphargus valachicus (Amphipoda, Gammaridae s.l.)) Biol. vestn. 29: 87-103. (In Slovenian with English summary. Deals also with N. hrabei, found near Zagreb)

SKET, B., 1981. Niphargobates orophobata n.g., n. sp. (Amphipoda, Gammaridae s.l.) from cave watera in Slovenia (NW Yugoslavia). Biol. vestn. 29: 105-118. (A new niphargid genus)

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SKET, B. & F. VELKOVRH, 1981. (Subterranean animals in thermal watera.) Biol. vestn. 29: 91-120. (In Slovenian, with English summary. Few amphipods)

SKOPTSOV, V.G., 1981. (Energy balance in the Gammarus lacustris Sars population from the Bolshoe Lake littoral.) Pp 80-86 in G.G. VINBERG (ed), Osnova izucheniya presnovodnykh ekosistem. Leningrad. (In Russian, not seen)

SKOPTSOV, V.G., 1981. (Growth and metabolism of Gammarus lacustris at different temperatures.) Ekologiya 0(2): 97-98. (In Russian, not seen)

SLOOFF, W., 1983. Benthic macroinvertebrates and water quality assessment: Some toxicological considerations. Aquat. Toxicol. 4: 73-82.

SMITH, A.L., 1981. Comparison of macrofaunal invertebrates in sand dollar (Dendraster excentricus) beds and in adjacent areas free of sand dollars. Mar. Biol. 65: 191-198.

SMITH, C.R. & T.M.C. PRESENT, 1983. In vivo marking of shallow-water and deep-sea amphipods by ingestion of bait mixed with Fast green. Mar. Biol. 73: 183-192. (Lysianassidae)

SMITH, D.G., 1982. Range extenions for two species of gammaroidean amphipods in northeastern North America. Crustaceana 42: 315-316. (Gammarus pseudolimnaeus and Crangonyx pseudogracilis)

SMITH, G.A., J.S. NICKELS, W.M. DAVIS, R.F. MARTZ, R.H. FINDLAY & D.C. WHITE, 1982. Perturbations in the biomass, metabolic activity, and community structure of the estuarine detrital microbiota: resource partitioning in amphipod grazing. J. exp. mar. Biol. Ecol. 64: 125-143. (Work on Gammarus mucronatus and Melita appendiculata)

SMITH, K.L. & R.J. BALDWIN, 1982. Scavenging deep-sea amphipoda: Effects of food odor on oxygen consumption and a proposed metabolic strategy. Mar. Biol. 68: 287-298.

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SMOCK, L.A., D.L. SONEBURNER & D.R. LENAT, 1981. Littoral and profundal macroinvertebrate communities of a coastal brown-water lake. Arch. Hydrobiol. 92: 306-320. (A study from Georgia, USA. Crangonyx app common)

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SORBE, J.C., 1983. Description d'un traineau destiné à l'échantillonnage quantitatif étage de la faune suprabenthique neritique. Ann. Inst. oceanogr. Paris (N.S.) 59: 117-126.

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molt cycle of the crustacean amphipod Orchestia gammarellus). CR Acad. Sci. Paris 291: 841-844. (In French, not seen)

STATZNER, B. & A. BITTNER, 1983. Nature and causes of migrations of Gammarus fossarum Koch (Amphipoda). A field study using a light intensifier for the detection of nocturnal activities. Crustaceana 44: 271-291.

STEELE, D.H., 1982. The genus Anonyx (Crustacea, Amphipoda) in the North Pacific and Arctic oceans: Anonyx nugax group. Can. J. Zool. 60: 1754-1775. (Consists of A. nugax, A. makarovi (=A. pacificus s. Steele & Brunel 1968), A. pacificus, A. sarai, A. lilljeborgi, A. beringi n. sp. (Kyska Harbor, Alaska), A. barrowensis n. sp. (Point Barrow, Alaska), A. anivae, A. schokalskii, A. comecrudus, A. debruyni, A. knipowitschi and A. epistomicus.)

STEELE, D.H., 1982. Survival, growth and reproduction of Gammarus lawrencianus on a diet of Pilayella littoralis. Pol. Arch. Hydrobiol. 29: 299-306.

STEELE, D.H., 1983. The genus Anonyx (Crustacea, Amphipoda) in the North Pacific Ocean: Anonyx validus-group. Can. J. Zool. 61: 2921-2931. (The group consists of A. dalli n. sp. (Kyska Harbor, Al.), A. shoemakeri n. sp. (cf. Aleutian Islands) and A. validus)

STEELE, D.H., 1983. Size compositions of lysianassid amphipoda in cold and warm water habitats. Mem. Austr. Mus. 18: 113-119.

STEELE, P. & S.B. COLLARD, 1981. First Gulf of Mexico record for Biancolina brassicacephala (Amphipoda: Biancolinidae). North-East Gulf Sci. 4: 115-118.

STEELE, V.J. & B.R. MACPHERSON, 1981. Morphological features of sessile and circulating hemocytes in the cephalon of Gammarus setosus Dementieva (Crustacea: Amphipoda) by light and electron microscopy. J. Morph. 170: 253-269.

STEIMLE, F.W., 1982. The benthic macroinvertebrates of the Block Island Sound. Est. coast. Shelf Sci. 15: 1-16. (Amph. p 7)

STEPHENSON, R.R., 1983. Effects of water hardness, water temperature, and size of the test organism on the susceptibility of the freshwater shrimp, Gammarus pulex (L.), to toxicants. Bull. environ. Contam. Toxicol. 31: 459-466.

STOCK, J.H., 1981. L'origine géologique des îles des Indes Occidentales en relation avec la dispersion de quelques Malacostraces stygobiontes. Geobios (Lyon) 14: 219-227. (Not seen)

STOCK, J.H., 1981. The taxonomy and zoogeography of the family Bogidiellidae (Crustacea, Amphipoda), with emphasis on the West Indian taxa. Bijdr. Dierk. 51: 345-374. (A monographic review, in which the group is split up into the following supraspecific taxa: Artezia (1 sp.), Spelaeogammarus (1), Somagidiella n. gen. (for Bogidiella somala), Parabogidiella (1), Bogidiella, with 7 subgenera: Bogidiella s.s. (at least 8), Medigiella n. subgen. (for B. chappuisi + 4), Orchestigidiella n. subgen. (for B. orchestipes), Stygogidiella n. subgen. (for B. bredini + 1), Mexigidiella n. subgen. (for B. tabascensis + 1), Guagidiella n. subgen. (for B. holsingeri + 1) and Antillogidiella n. subgen. (for B. martini). Furthermore Actogidiella n. gen. (for A. cultrifera n. sp.), Mariogidiella n. gen. (type B. brasiliensis, further species M. crassipes n. sp.), Dergueleniola (1), Bollegidia (2, as Bogidiella sootai is here transferred to Bollegidia), Dusaartiella (1) and Pseudingolfiella (2). A. cultrifera n. sp., M. crassipes n. sp. and Bogidiella (Stygogidiella) virginalis n. sp. were all found on the island of Tortola (West Indies), Bogidiella (?Stygogidiella) perla n. sp. from Isla de Margarita, Venezuela. Bogidiella (S.) bredini is redescribed.)

STOCK, J.H., 1982. Amsterdam (the Netherlands) expeditions to the West Indian

islands 18. Stygobiont Crustacea Malacostraca from geologically older and younger Antillean islands: a biogeographic analysis. *Bijdr. Dierk.* 52: 191-199. (Not seen)

STOCK, J.H., 1982. The influence of hadziid Amphipoda on the occurrence and distribution of Thraeobaenacea and cyclopoid Copepoda in the West Indies. *Pol. Arch. Hydrobiol.* 29: 275-282. ('It is considered most likely that Hadziida predate on smaller Crustacea')

STOCK, J.H., 1982. Validite du genre Pectenogammarus Reid, 1940 et distribution de son espece-type, P. planicrurua (Reid, 1940) (Crustacea, Amphipoda, Gammaridae). *Cah. Biol. Mar.* 23: 325-329.

STOCK, J.H. & J.J. VERMEULEN, 1982. A representative of the mainly abyssal family Pardaliscidae (Crustacea, Amphipoda) in cave waters of the Caicos Islands. *Bijdr. Dierk.* 52: 3-12. (Spelaeonicippe provo n. gen. n. sp. from the Caicos Islands N. of Haiti. Nicippe buchi from Lanzarote is also transferred to Spelaeonicippe)

STOCK, J.H., 1983. Discovery of a bogidiellid amphipod crustacean in inland waters of the East Indian archipelago: Bogidiella (Medigidella) sarawacensis n. sp. *Cruataeana* 44: 198-204. (type locality: caves in Sarawak, Borneo)

STOCK, J.H., 1983. A new species of Psammogammarus (Crustacea, Amphipoda) from the Roques archipelago, Venezuela. *Bijdr. Dierk.* 53: 103-108. (P. acopulorum n. sp.)

STOCK, J.H., 1983. Predation as a factor influencing the occurrence and distribution of small Crustacea in West Indian groundwater. *Bijdr. Dierk.* 53: 233-243.

STOCK, J.H., 1983. The stygobiont amphipods of Jamaica. *Bijdr. Dierk.* 53: 267-268. (Metaniphargus jamaicae, M. craterensis n. sp., M. hyporheicus n. sp. and M. anchihalinus n. sp. The taxonomy at generic level of the Hadzia complex is discussed extensively.)

STOCK, J.H. & L. BOTOSANEANU, 1983. Premiere decouverte d'Amphipodes Gammaridae du groupement des Hadziidae dans des eaux souterraines de l'Amerique du Sud: description de Metaniphargus venezolanus n. sp. *Bijdr. Dierk.* 53: 158-164. (type area: peninsula Morocoy in N. Venezuela)

STOCKTON, W.L., 1982. Scavenging amphipoda from under the Ross Ice shelf, Antarctica. *Deep-Sea Res.* 29: 819-835. (A study of an undescribed Orchomene sp., trapped from below 700 m's of ice many hundreds of kilometers from the ice edge. A few other amphipoda were also caught.)

STONER, A.W., 1982. The influence of benthic macrophytes on the foraging behavior of pinfish, Lagodon rhomboides (Linnaeus). *J. exp. mar. Biol. Ecol.* 58: 271-284.

STOUT, R.J. & W.E. COOPER, 1983. Effect of P-cresol on leaf decomposition and invertebrate colonization in experimental outdoor streams. *Can. J. Fish. aquat. Sci.* 40: 1647-1657. (Hyalella azteca most sensitive of all invertebrates tested)

SUNDBACK, K. & L-E. PERSSON, 1981. The effect of microbenthic grazing by an amphipod, Bathyporeia pilosa Lindstrom. *Kieler Meeresf. Suppl.* 5: 573-575.

SUNDELIN, B., 1983. Effects of cadmium on Pontoporeia affinis (Crustacea: Amphipoda) in laboratory soft-bottom microcosms. *Mar. Biol.* 74: 203-212.

SUTCLIFFE, D.W. & T.R. CARRICK, 1981. Effect of temperature on the duration of egg development, and moulting and growth in juveniles of Crangonyx pseudogracilis (Crustacea, Amphipoda) in the laboratory. *Freshw. Biol.* 11: 511-522.

SUTCLIFFE, D.W. & T.R. CARRICK, 1981. Number of flagellar segments and moulting in the amphipod Gammarus pulex. *Freshw. Biol.* 11: 497-509.

SWARTZ, R.C., W.A. DEBEN, K.A. SERCU & J.O. LAMBERSON, 1982. Sediment toxicity

and the distribution of amphipods in Commencement Bay, Washington, USA. Mar. Poll. Bull. 13: 359-364. (A study on Rhepoxygnus (formerly Paraphoxus) abronius)

SWARUPA, K.M.C. & Y. RADHAKRISHNA, 1983. Heterocaprella krishnaensis n. sp., a new caprellid from Indian waters (Amphipoda, Caprellidea). Crustaceana 44: 54-?. (Bapatla coast, India)

SYAMENCHANKA, V.P., 1982. (Age-related and seasonal changes in content of dry substance and caloricity in the amphipod Pontoporeia affinis.) Vyestsi Akad. Nauk BSSR Syer Biyal Navuk 1982(1): 88-91. (In Russian, not seen)

TAGATZ, M.E., C.H. DEANS, J.C. MOORE & G.R. PLAIA, 1983. Alterations in composition of field and laboratory-developed estuarine benthic communities exposed to di-n butyl phthalate. Aquat. Toxicol. 3: 239-248.

TAGHON, G.L., 1982. Optimal foraging by deposit-feeding invertebrates: roles of particle size and organic coating. Oecologia (Berl.) 52: 295-304. (i.a. Corophium salmonis)

TAKAMURU, N. & S. NAKAO, 1982. (Benthic communities of Japanese surf clam (Pseudocardium sybillae) beds in Hamanako Bay and Biwase Bay, Hokkaido, Japan.) Sci Repts. Hokkaido Fish. exp. Stn 0(24): 51-58. (In Japanese, not seen. Has apparently much information on amphipoda)

TAKAMURU, N. & T. OCHIAI, 1982. (Gammaridean amphipoda in Hamanako Bay and Biwase Bay, Hokkaido, Japan.) Sci. Repts. Hokkaido Fish exp. Stn 0(24): 29-40. (In Japanese, not seen. Deals with 13 spp from sandy bottoms classified in 3 groups: Hippomedon-Synchelidium-Atylus group, Amphilisca brevicornis - Protomedie-Anonyx-Urothoe grimeldii - Siphonoecetes tanabensis-Corophium group and Eohaustorius eous-Monoculodes limnophilus group)

TARARAM, A.S. & Y. WAKABARA, 1981. The mobile fauna - especially Gammaridae - of Sargassum cymosum. Mar. Ecol. Progr. Ser. 5: 157-163. (Brazil)

TARARAM, A.S. & Y. WAKABARA, 1982. Notes on the feeding of Blennius cristatus Linnaeus from a rocky pool of Itanhaem, Sao Paulo State. Bol. Inst. oceanogr. S. Paulo 31(2): 1-3. (Hyale media is a very important prey)

TURNER, R.D., 1981. (Wood islands and thermal vents as centers of diverse communities in the deep sea.) Biol. Morya (Vladiv.) 0(1): 3-10. (In Russian, not seen)

THIBAULT, Y. & R. COUTURE, 1982. Resistance thermique supérieure de Gammarus fasciatus, Say (Crustacea, Amphipoda) et son utilisation en situation de rejets thermaiques. Can. J. Zool. 60: 1339-1346.

THOMAS, J.D., 1983. Curidie debroganis, new genus new species of amphipod (Crustacea: Ochlesidae) from the Barrier Reefs of Belize, Central America. Proc. biol. Soc. Wash. 96: 127-133. (An ochlesid with maxillipedal palps!)

THOMAS, J.D. & J.L. BARNARD, 1983. The Platyischnopidae of America (Crustacea: Amphipoda). Smithson. Contr. Zool. 375: 1-33. (New taxa: Eudevenopus n. gen. with the spp Platyischnopus metagracilis (type), P. gracilipes and E. honduranus n. sp. (from Belize); Tiburonella n. gen., monotypic for P. virescens, and Skaptopus, n. gen. also monotypic, for S. brychius n. sp. (off N. Jersey, 129 m).)

THOMAS, J.D. & J.L. BARNARD, 1983. Transformation of the Leucothoides morph to the Anamixis morph (Amphipoda). J. crust. Biol. 3: 154-157. (In one of the most amazing surprises in amphipod history, Anamixis spp turn out to be the fully-grown males of Leucothoides. Leucothoides is therefore a junior synonym of Anamixis, and L. pottsi of A. hansenii. The family Leucothoidae is redefined to exclude Leucothoides, and the Anamixidae to include this morph.)

THOMPSON, D.J. & S.J. MOULE, 1983. Substrate selection and assortative mating in Gammarus pulex L. Hydrobiologia 99: 3-6.

THURSTON, M.H., 1982. *Cheus annae*, new genus, new species (Cheatidae new family), a fossorial amphipod from the Falkland Islands. *J. crust. Biol.* 2: 410-419. (The new family belongs in the phoxocephalid-haustoriid group of families. It is an intertidal sand-burrower.)

TIMMS, B.V., 1983. A study of benthic communities in some shallow saline lakes of western Victoria, Australia. *Hydrobiologia* 105: 165-177. (i.e. *Austrochiltonia subtenuis*)

TSUTSUMI, H. & T. KIKUCHI, 1983. Benthic ecology of a small cove with seasonal oxygen depletion caused by organic pollution. *Puybla Amakusa mar. biol. Lab.* 7(1): 17-40.

TURQUIN, M.J., 1981. Profil démographique et environnement chez une population de *Niphargus virei* (Amphipode troglobie). *Bull. Soc. zool. Fr.* 106: 457-466.

VADER, W., 1983. Associations between amphipods (Crustacea: Amphipoda) and sea anemones (Anthozoa: Actiniaria). *Mem. Austr. Mus.* 18: 141-153. (A review paper, with new data on '*Allogausia' recondita*')

VADER, W., 1983. Prehensile pereopods in gammaridean Amphipoda. *Sarsia* 68: 139-148.

VADER, W. & C.L. BEEHLER, 1983. *Metopa glacialis* (Amphipoda Stenothoidae) in the Barents and Beaufort Seas, and its association with the lamellibranchs *Musculus niger* and *M. discors* s.l. *Astarte* 12(1979): 57-61.

VALTONEN, E.T. & A. NIINIMAA, 1983. Dispersion and frequency distribution of *Corynoacoma* spp (Acanthocephala) in the fish of the Bothnian Bay. *Aquilo Ser. Zool.* 22: 1-11. (Intermediate host is *Pontoporeia affinis*)

VALTONEN, E.T., M.J. van MAREN & O. TIMALA, 1983. A note on the intermediate hosts of *Echinorhynchus qadi* Zaega, in Muller (Acanthocephala) in the Baltic Sea. *Aquilo Ser. Zool.* 22: 93-97. (Field data and experiments on possible amphipod hosts; *Gammarus zaddachi* is the most likely intermediate host.)

VAN BLARICOM, G.R., 1982. Experimental analyses of structural regulation in a marine sand community exposed to oceanic swell. *Ecol. Monogr.* 52: 283-305.

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FIRST ANNOUNCEMENT / PREMIER AVIS

VIth INTERNATIONAL COLLOQUIUM ON AMPHIPOD CRUSTACEANS - organized by

the University of Amsterdam, 28 June - 3 July 1985

VI^e COLLOQUE INTERNATIONAL SUR LES CRUSTACÉS AMPHIPODES - organisé par

l'Université d'Amsterdam, du 28 juin au 3 juillet 1985

During the "Workshop on Phyletic Classification of Amphipod Crustaceans" (Ottawa, 17-19 August 1984), the University of Amsterdam has been elected for the organisation of the VIth Amphipoda Colloquium (formerly Colloquium on Gammarus and Niphargus).

Date.- The period 28 June to 3 July 1985 has been selected, since several amphipod workers wish to participate, from 4 July onward, in an Evolution symposium in England.

Place.- The Colloquium will be held in the village of Ambleteuse (France, département Pas-de-Calais), on the Channel coast halfway Calais and Boulogne. The University of Amsterdam has a modest fieldstation in this place, whereas two other marine laboratories (Laboratoire de Biologie marine of the Universities of Lille and Louvain, and the Institut de Biologie marine, Wimereux) are quite close.

The Colloquium will take place in the Léo Lagrange Centre of Ambleteuse, which offers complete, modern facilities (2 lecture halls, possibilities for slides, overhead, 16 mm movies, lodgement in bungalows on the grounds, all meals, sporting facilities).

Registration fee.- For the use of the congress facilities and (free) participation in excursions, a fee of US\$ 60.- will be charged (ca. 600 ffr).

Lodgement.-

A) The recommended way. The congress centre possesses a number of bungalows for 2 and 4 persons (each with toilet and shower) around the lecture halls. The price per person (bed, kitchen use, breakfast and 2 warm meals a day) is ffr. 143.- (ca. US\$ 15.-) per person per day (estimated price for 1985).

B) The budget way. The two field laboratories in Ambleteuse have a limited number of beds available in their student dormitories. With a few exceptions, there are several superimposed beds per room. For students and for amphipod workers from countries experiencing currency difficulties, this is a cheap, but decent, way to reduce their travel expense.

Since the number of beds available is limited (24 in the Amsterdam Lab., 14 in the Lille/Louvain Lab.), these are allotted strictly on the "first signed-up/first served" basis.

The price for these accommodations is ffr. 20.- per day in the Lille/Louvain Lab., (without kitchen use) or ffr. 30.- per day in the Amsterdam Lab. (with kitchen use). Meals are available from the Hôtel/Restaurant des Baigneurs (at 1 minute walk from both labs.); hot meals ffr. 38.-, breakfast ffr 12.- (1 US\$ is approx. 10.- ffr, fluctu-

Pendant le "Workshop sur la Classification phylétique des Crustacés Amphipodes" (Ottawa, 17-19 août 1984), l'Université d'Amsterdam a été élue comme organisme organisateur du VI^e Colloque sur les Amphipodes (autrefois: Colloque sur Gammarus et Niphargus).

Dates.- La période du 28 juin au 3 juillet 1985 a été choisie, parce que plusieurs participants désirent prendre part également à une Conférence sur l'Evolution en Angleterre, à partir du 4^e juillet.

Place.- Le Colloque sera organisé dans le village d'Ambleteuse, dans le Pas-de-Calais (France, sur les côtes de la Manche entre Calais et Boulogne. L'Université d'Amsterdam dispose d'un modeste laboratoire de terrain à cet endroit, tandis que deux autres laboratoires marins (Laboratoire de Biologie marine des Universités de Lille et de Louvain, ainsi que l'Institut de Biologie marine de Wimereux) se trouvent en proximité.

Le Colloque se déroula dans le Centre Léo Lagrange d'Ambleteuse, avec ses facilités modernes (2 salles de conférence, avec tous les moyens audio-visuels, hébergement dans des bungalows sur le domaine même, tous les repas, activités sportives).

Taxe d'inscription.- US \$ 60.- (soit approximativement FF 600.-) donnant aussi le droit d'utiliser toutes les facilités du Centre et de participer gratuitement aux excursions.

Hébergement.-

A) Modalité recommandée. Le Centre Léo Lagrange offre un nombre de bungalows modernes, chaque logement à 2 ou 4 lits (chaque lit dispose de douche, W.C. et lavabo), arrangés autour des salles de conférence. Le prix par personne (estimé au niveau de 1985) sera de FF 143.- par jour, les trois repas y inclus.

B) Modalité économique. Les deux laboratoires de terrain à Ambleteuse offrent un nombre restreint de lits dans leurs dortoirs collectifs. Avec peu d'exceptions, il y a plusieurs lits superposés dans chaque chambre. Pour des étudiants et pour des chercheurs originaires de pays avec des difficultés valutaires, cet hébergement représente une alternative bon marché, modeste, mais décente. Parce que le nombre de lits disponibles est limité (24 dans le labo d'Amsterdam, 14 dans le labo de Lille/Louvain), les places seront allouées strictement selon la formule "les premiers venus sont les premiers servis". Le prix pour cette formule sera de FF 20.- par jour (dans le labo de Lille/Louvain, sans accès à la cuisine), ou de FF 30.- par jour (dans le labo d'Amsterdam, avec cuisine). Les repas pourront être pris dans le Restaurant des Baigneurs (1 minute à

ating with the rate of exchange).

C) For participants wishing single rooms the Hôtel des Baigneurs has a limited number of singles available (fr. 65.- per person per day); for meals see under B.

The laboratory dormitories and the Hotel are within 5 min. walking distance from the lecture halls.

Excursions and fieldwork.— The laboratories are at a few minutes walk from the coast, the Léo Lagrange Centre is 800 m from the coast. The Channel area is reknown for its large tidal difference (ca. 9 m at equinoctial spring tides) and a wide variety of biotopes is readily available (rocky intertidal, sandy beaches, estuarine environments with mud flats, running chalk streams).

A number of excursions will be organized for the Colloquium members (to the old walled town of Boulogne, to the chalk cliffs of Cap Blanc Nez, a demonstration of up- and downstream migrations of Gammarus).

Travel.— Ambleteuse can be reached:

A) By car via road D940 (formerly N40), between Calais Boulogne, ca. 12 km N of the latter.
B) By train: direct trains connect the railway station Wimereux-Wimille (ca. 4 km from the lecture halls) with Paris (once a day), Lille (5 times a day) or Boulogne (8 times a day).
C) By air: the nearest airport is Lille-Lesquin (130 km). From Lille five direct trains serve the railway station Wimereux-Wimille.
Air travellers through Paris should make connections by train (once a day direct, or change in Boulogne).
D) By boat: Visitors from Great Britain may wish to take the ferry from Dover to Boulogne, and reach Ambleteuse by bus or by train (many services per day).

Languages.— The official Colloquium languages will be English and French.

Call for papers.— If you intend to present an oral communication or a poster, please indicate the intended title on the attached form.

Registration.— Please fill out the attached form as soon as possible if you intend to visit the Colloquium or if you wish to be kept informed. Since the number of places available in a small village like Ambleteuse is not unlimited, firm subscription at an early date will insure reservation of accomodation in the desired category.

Please address registration, accomodation, and communication forms as soon as possible to

The Secretariat, VIth International Colloquium on Amphipoda
Jan H. Stock or Sjouk Pinkster
I.T.Z., P.O. Box 20125
1000 HG Amsterdam
The Netherlands.

tel. 020 - 522.3435 or 522.3635
telex FAC WN 16460.

pled des deux laboratoires): repas chauds à FF 38.-, petit déjeuner à FF 12.-

C) Chambres individuelles. L'Hôtel/Restaurant des Baigneurs offre un nombre limité de chambres individuelles à FF 65.- par personne par jour; pour les repas voir B.

Les dortoirs des laboratoires et l'Hôtel des Baigneurs se trouvent à 5 min, à pied des salles de conférence.

Excursions touristiques et démonstratives.— Les laboratoires sont à quelques minutes seulement du littoral, le Centre Léo Lagrange se trouve à 800 m de la côte. Les côtes de la Manche sont connues pour leur grande amplitude des marées (de 9 m environ pendant les grandes marées d'équinoxe) et pour leur grande variété de biotopes (côtes rocheuses, plages de sable, estuaires avec schorre intertidale, eaux douces courantes).

Quelques excursions seront offertes aux participants (la vieille Cité de Boulogne, les falaises de Cap Blanc Nez, démonstration des migrations anadrome et katadrome de Gammarus).

Moyens d'accès.— Ambleteuse peut être atteint:

A) En voiture: prenez le D 940 (antérieurement N 40); le village se trouve entre Calais et Boulogne, à 12 km environ au Nord de Boulogne.
B) Par le train: Gare SNCF de Wimereux-Wimille (à 4 km environ de l'endroit du Colloque), desservie par des trains directs de Paris (1 fois par jour), de Lille (5 fois par jour) ou de Boulogne (8 fois par jour).
C) Aéroport le plus proche: Lille-Lesquin (à 130 km). De Lille, il y a 5 trains par jours à la gare SNCF de Wimereux-Wimille.
Les voyageurs en avion à destination de Paris peuvent prendre le train direct (Paris-Wimereux) ou faire la correspondance par Boulogne.
D) En bateau: les voyageurs venant d'Angleterre, peuvent utiliser le bac (Douvres-Boulogne), et atteindre Ambleteuse par le SNCF ou par l'autocar (plusieurs services par jour).

Langues.— les langues officielles du Colloque seront l'anglais et le français.

Communications.— Les participants souhaitant présenter des exposés oraux ou des documents pour des séances de démonstration ("poster") sont invités de mentionner le titre de leur communication sur la formule ci-jointe.

Inscription.— Si vous avez l'intention de participer au Colloque, veuillez bien remplir le formulaire ci-joint. Le nombre de lits (dans une localité si petite qu'Ambleteuse) étant limité, l'inscription définitive et rapide vous assurera une chambre dans la catégorie désirée.

Veuillez remplir et envoyer le plus tôt possible la demande d'inscription et de logement, ainsi que celle de communications, à:

Secrétariat VIe Colloque international sur les Amphipodes
Jan H. Stock ou Sjouk Pinkster
I.T.Z., Boîte postale 20125
1000 HG Amsterdam (Pays-Bas)

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